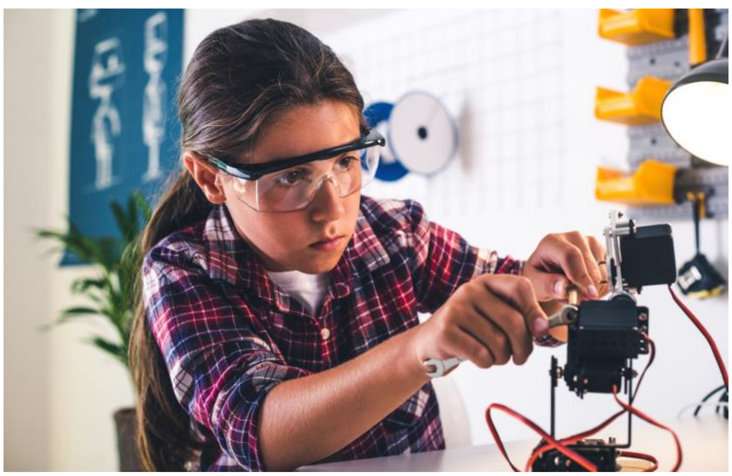
Appendix D

Climate Action Plan

Climate Resilience

Ability to prepare for, recover from, and adapt to impacts from our changing climate.[1]



Climate Mitigation

Avoiding and reducing emissions of heat-trapping greenhouse gases into the atmosphere to prevent the planet from warming to more extreme temperatures.[2]

Climate Adaptation

Altering our behavior and systems to protect our families, economies, and the environment from the impacts of climate change.[2]

1. https://www.c2es.org/document/what-is-climate-resilience-and-why-does-it-matter/?gclid=CjwKCAiAtouOBhA6EiwA2nLKH1iHNDMdt-S2tqbW0NynC1MUOXsIj7w4M8COvxf00-mJZ8LIgG4qnhoC4mwQAvD_BwE
2. https://www.worldwildlife.org/stories/what-s-the-difference-between-climate-change-mitigation-and-adaptation

This page intentionally left blank.

Section 1: Introduction

Vision

Montclair is a diverse and forward-thinking community with a young population. Approximately 33.7 percent of the population was born outside of the United States and 63.6 percent of the population speaks a language other than English at home.[3] The community's diversity is highly valued and is part of the foundation that supports the City's first Climate Action Plan (CAP). This CAP presents a pathway for Montclair to reduce greenhouse gas (GHG) emissions, prepare for and mitigate climate risks, and chart the course towards a more sustainable and resilient future. Key components of that future include healthy, accessible, and safe communities that attract and retain jobs, while providing and promoting equitable access to the advancements made through the implementation of the CAP.

Equity in Montclair is defined as a strategic focus of policies, programs, and processes targeted towards communities at greatest risk, and those that require the greatest support.

The goal of this CAP is to interweave equity considerations throughout the Plan because we are committed to working together to reduce our emissions in a fair way and make Montclair, our surrounding communities, and the world a more sustainable, healthier, and resilient place. As such, the role of the CAP is to protect those most vulnerable, including, disadvantaged communities and small businesses, against the impacts of climate change.

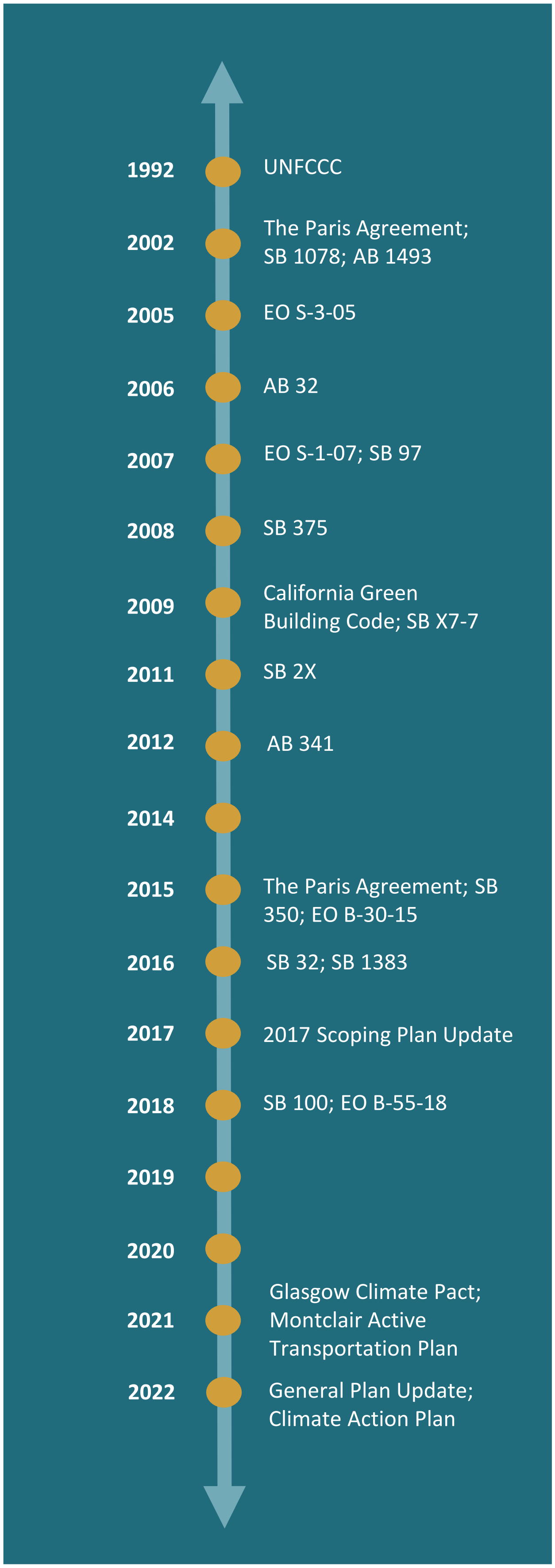
3. https://www.census.gov/quickfacts/montclaircitycalifornia

Background

The effects of climate change are already felt on the local level and are projected to worsen over the next century without a concerted global effort to address the sources of GHG emissions (see *Climate Change in the City of Montclair* for more information on local climate impacts).[4] Therefore, the City of Montclair is looking to the future and preparing for a changing climate and the risks that come with it by adopting our first community CAP. The CAP is a long-range planning document that guides the City towards GHG emissions reductions in accordance with State of California's climate goals and the fair share reductions necessary to limit global warming to 1.5°C compared to pre-industrial levels. The 1.5°C goal was set by the Paris Agreement (2015), which is a legally binding international treaty on climate change, that aims to limit global warming to well below 2°C, preferably to 1.5°C. These goals were reiterated in the Glasgow Climate Pact (2021). See Appendix A for more information on the Paris Agreement and the Glasgow Climate Pact, as well as information on other relevant climate regulations. Figure 1 also includes a timeline of relevant regulations.

4. https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/

Figure 1 Climate Action Timeline



The CAP analyzes GHG emission sources within the City, forecasts future emissions, and establishes emission reduction targets (See Section 2 and Appendix C). This CAP is built off of the San Bernardino County Regional Greenhouse Gas Reduction Plans (GGRP)[5] that were completed in 2014 and 2021 and establishes a path for the City to reduce GHG emissions to 40 percent below 1990 levels by 2030 as outlined in Senate Bill (SB) 32, as well as make substantial progress towards reducing emissions in line with Executive Order (EO) S-3-05, which established a goal to reduce emissions by 80 percent below 1990 levels by 2050. The CAP also provides a framework for implementation and monitoring reduction activities, and further promotes adaptation and preparedness actions. The Plan is intended to be a qualified GHG Reduction Plan and meets the requirements of the California Environmental Quality Act (CEQA) 15183.5(b), see *Purpose* for more information.

COVID-19 and Climate Action

The COVID-19 pandemic has disrupted daily lives and both the local and national economies, bringing the intersection of climate change and community health to the forefront of the public eye. The pandemic has also shone a light on how community impacts disproportionately affect already-vulnerable communities. Frontline communities, already suffering from exposure to higher levels of toxic air pollution, are more vulnerable to respiratory disease and were, and remain to be, impacted at disproportionately higher rates from the pandemic. Similarly, the economic shutdown destabilized everyone; however, small business owners and income-insecure workers were among those least able to draw on financial reserves and wait for economic recovery and relief. At the same time, global response to the pandemic has shown that an extreme reaction to disasters of this magnitude is both possible and necessary. Together, we can make a difference.

5. The Regional GGRP provides the information for partner jurisdictions to use, if they so choose. The City of Montclair can choose whether to adopt the Regional GGRP's established strategies or make their own. The Regional GGRP shows what reductions are possible if every jurisdiction were to adopt the proposed strategies. Source: https://www.gosbcta.com/plan/regional-greenhouse-gas-reduction-plan/
6. https://www.worldbank.org/en/news/press-release/2021/11/03/covid-19-responses-could-help-fight-climate-change

Although GHG emissions in the United States dropped by about 12 percent and global GHG emissions dropped by about 7 percent between 2019 and 2020 due to the restrictions from COVID-19,[7] global GHG emissions rebounded in 2021,[8] which puts an emphasis on how important it is to act now. This CAP has been developed with a goal of reducing GHG emissions consistent with state goals while also addressing environmental justice and climate equity for our frontline communities. This CAP outlines how Montclair can work towards a safe and equitable future.

Purpose

This CAP will guide the City of Montclair towards reducing GHG emissions consistent with the targets set out by SB 32 and Executive EO S-03-05, as well as fulfill the requirements of the CEQA Guidelines Section 15183.5(b). CEQA Guidelines Section 15183.5(b) includes the following required criteria for a qualified CAP:

A. Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area (See Section 2)
B. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable (See Section 2)
C. Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area (See Section 2)
D. Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level (See Section 3)
E. Establish a mechanism to monitor the Plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels (See Section 5)
F. Be adopted in a public process following environmental review (See Appendix E)

If projects are consistent with the CAP, CEQA analysis can be streamlined by presuming that the project is consistent with the measures included in the CAP and the project's GHG emissions are not significant.[10]

Greenhouse Gas Emissions Background

Most of the energy that affects Earth's climate comes from the sun. When solar radiation reaches the Earth's atmosphere, some of it is reflected back into space and a small portion is absorbed by Earth's surface. As Earth absorbs the solar radiation, its surface gains heat and then re-radiates it back into the atmosphere. Some of this heat gets trapped by gases in the atmosphere, causing Earth to stay warm enough to sustain life. This is known as the *greenhouse effect* and the gases trapping the heat are known as *greenhouse gases*.[11] See the infographic depicting the *greenhouse effect and impacts* on the following page.

The greenhouse effect is integral to sustaining life on Earth. However, human activities emit GHGs in excess of natural ambient concentrations, thereby contributing to the enhancement of the natural greenhouse effect. This enhanced greenhouse effect contributes to global warming, an accelerated rate of warming of Earth's average surface temperature. More specifically, by burning fossil fuels to power homes, businesses, and automobiles, we increase the amount of GHGs emitted into the atmosphere,[12] which, in turn, leads to increased absorption of infrared radiation by the Earth's atmosphere and increasing temperatures near the surface.

7. https://earth.stanford.edu/news/covid-lockdown-causes-record-drop-carbon-emissions-2020#gs.iu69fg
8. https://www.globalcarbonproject.org/carbonbudget/21/files/Norway_CICERO_GCB2021.pdf
9. Please Appendix A for a full summary on the regulatory background that drives the climate action planning process.
10. https://opr.ca.gov/docs/OPR_C8_final.pdf
11. https://scied.ucar.edu/learning-zone/how-climate-works/greenhouse-effect
12. https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

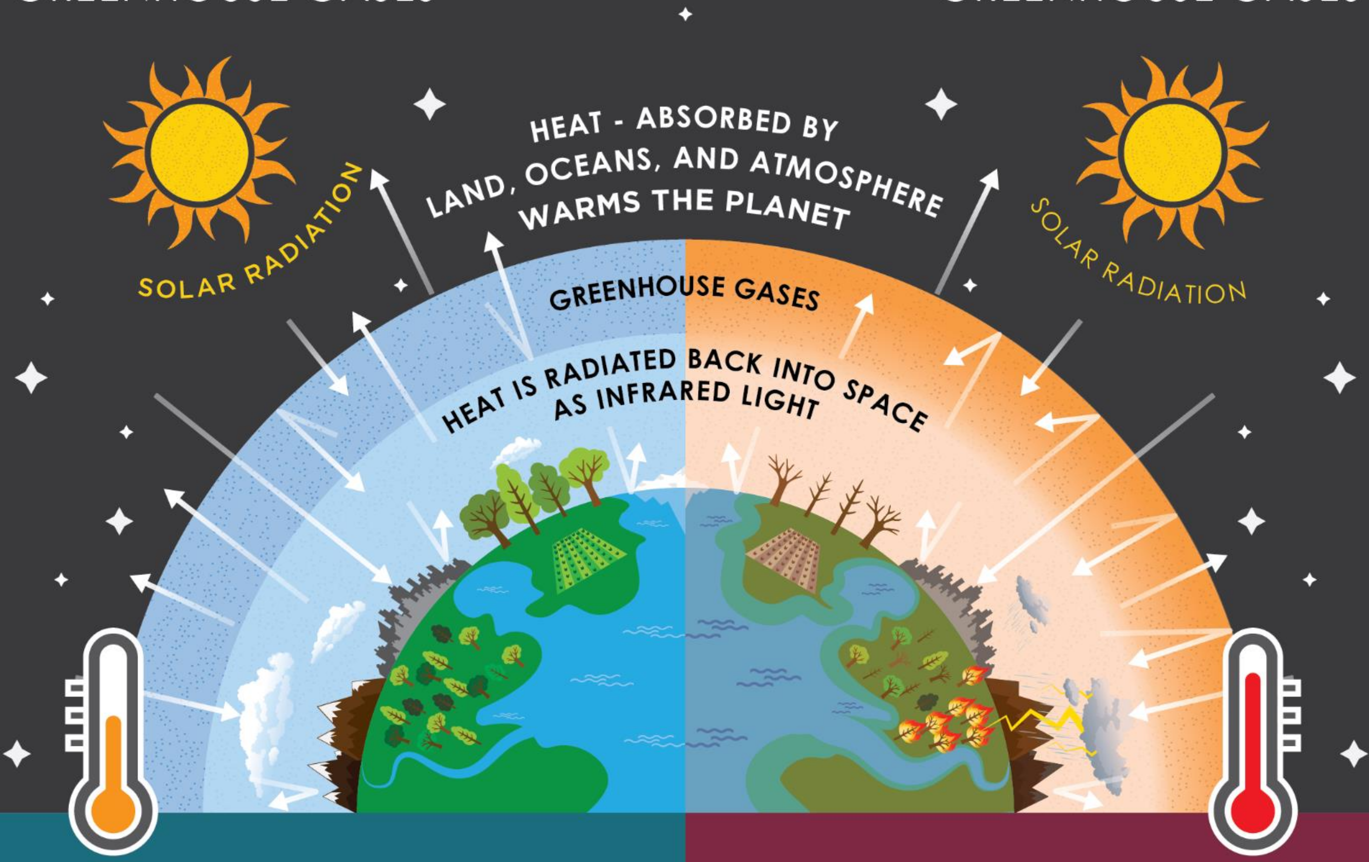
GREENHOUSE EFFECT

In the last century, human activities such as burning fossil fuels and deforestation have caused a jump in the concentration of greenhouse gases in the atmosphere.

THE RESULT: Extra trapped heat and higher global temperatures.

WITH NORMAL GREENHOUSE GASES

WITH INCREASED GREENHOUSE GASES



Some heat continues into space while the rest, trapped by greenhouse gases, help maintain the planet's relatively comfortable temperatures.

LESS GAS = LESS HEAT TRAPPED IN THE ATMOSPHERE

Retaining more reliable:

- **Weather**
- **Rainfall**
- **Temperature**
- **Sea Level**

Increased greenhouse gases means less heat escapes to space. Between preindustrial times and now, the earth's average temperature has risen by 1.8°F (1.0°C).

MORE GAS = MORE HEAT TRAPPED IN THE ATMOSPHERE

More intense:

- **Storms**
- **Drought**
- **Heat**
- **Sea Level Rise**

Types of Greenhouse Gases

Greenhouse gases listed by the United Nations Intergovernmental Panel on Climate Change (IPCC) include: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), as well as chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, which are collectively called fluorinated gases.[13] In the United States, 97 percent of the annual GHG emissions generated consist of CO_2, CH_4, and N_2O collectively,[14] while fluorinated gases[15] result in the remaining three percent of emissions. Because CO_2, CH_4, and N_2O comprise a large majority of GHG emissions at the community level, these are the gases considered in this analysis.

Each of these gases has its own global warming potential (GWP), or extent to which it traps energy in the atmosphere, ranging from a decade to several thousand years. Often, CO_2 is used as the reference point to compare the potential impact of different GHGs; therefore, CO_2 has a GWP of 1. The GWPs for the emissions included in this analysis are summarized below.

GHG	GWP
CO_2	1
CH_4	28
N_2O	265

When all GHG's are normalized based on their GWP's they are referred to as carbon dioxide equivalents or CO_2e. It is important to also note that there are a variety of GWPs, based on different timeframes and the lifespan of the GHG; however, to be consistent with California's state-wide inventory we have relied upon those included in the Fifth IPCC Assessment Report (2014).[16]

Sources of Greenhouse Gas Emissions

The combustion of fossil fuels (such as natural gas and gasoline), the decomposition of waste, and industrial processes are the primary sources of GHG emissions. With the accelerated increase in fossil fuel combustion and deforestation since the Industrial Revolution of the 19th century, concentrations of GHG emissions in the atmosphere have increased exponentially. The

13. https://www.c2es.org/content/main-greenhouse-gases/
14. https://www.wri.org/insights/4-charts-explain-greenhouse-gas-emissions-countries-and-sectors
15. Fluorinated gases, which includes four main types: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and nitrogen trifluoride (NF_3), are man-made gases that can stay in the atmosphere for centuries and contribute to the GHG effect.

16. https://www.ipcc.ch/assessment-report/ar5/

California Air Resources Board (CARB) tracks the statewide emissions and publishes an annual report: *California Greenhouse Gas Emissions for 2000 to 2019 Trends of Emissions and Other Indicators.*[17]

According to CARB, in 2019 statewide emissions were 418.2 million metric tons of carbon dioxide equivalent (MMT CO_2e), 7.2 MMT CO_2e lower than 2018 levels and almost 13 MMT CO_2e below the 2020 GHG limit of 431 MMT CO_2e. Between 2018 and 2019, emissions from transportation and electric power decreased due to a significant increase in renewable diesel (up 61 percent from 2018), making diesel fuel bio-components (biodiesel and renewable diesel) 27 percent of total on-road diesel sold in California. Additionally, there was a continued increase in renewable energy generation, including a 46 percent increase in available in-state hydropower in 2019. General trends in CARB's inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP) is declining.

Emissions in Montclair

As part of the development of this CAP, the City of Montclair developed a 2017 GHG Inventory for its community and municipal emissions sources. A GHG inventory provides information about a community's GHG emissions profile and break that down into individual sectors looking at specific emissions by source. Montclair's inventory is broken down into four sectors: transportation, energy, water, and solid waste for both municipal and community GHG emissions profiles. See Section 2 for more information on the inventory, as well as the forecast and targets established as part of this climate action planning process.

Climate Impacts

Anthropogenic (human) caused climate change is well-understood and widely accepted by the scientific community, with over 97 percent of climate scientists agreeing that the planet is warming and human activities are the root cause.[18] Essentially, climate change is the addition of excess GHGs to the atmosphere which traps energy (heat) and causes changes to temperature, wind patterns, and precipitation. Because of human activities, these GHGs are now higher than they have been in the past 400,000 years, raising carbon dioxide levels from 280 parts per million to 400 parts per million in the last 150 years.[19] Although many changes to climate are governed by natural processes, human activities have contributed an increasing amount of GHGs to the atmosphere at a rate that is unprecedented in Earth's history. The Paris Agreement establishes a roadmap to keep the world under 2° C of warming with a goal of limiting an increase of temperature to 1.5° C. As mentioned above, the CAP guides the City towards GHG emissions reductions in accordance with these climate goals and establishes a path that allows the City to achieve the fair share reductions necessary to limit global warming to 1.5°C compared to pre-industrial levels.

Effects of Climate Change

Globally, climate change is already linked to several changes which will impact the earth and its population. Scientists have measured shrinking ice sheets, warming oceans, increasing global temperatures, less snow cover, sea level rise, and species extinction. Consequently, global climate change has the potential to result in reduction of fresh-water supply (due to rainfall and snowfall changes), adverse changes to biological resources and public health (due to increased temperature, less-productive habitats, and expansion of disease vectors), as well as many other adverse environmental consequences.[20]

Globally, a warming trend is abundantly clear, with both the years 2016 and 2020 being the hottest years on record.[21] Additionally, the 20 hottest years on record have all occurred since 1998.[22] Climate change is a global phenomenon that has the potential to impact local health, natural resources, infrastructure, emergency response, and many other facets of society. The direct impacts projected for the City of Montclair include increased temperatures and potential changes in precipitation patterns.

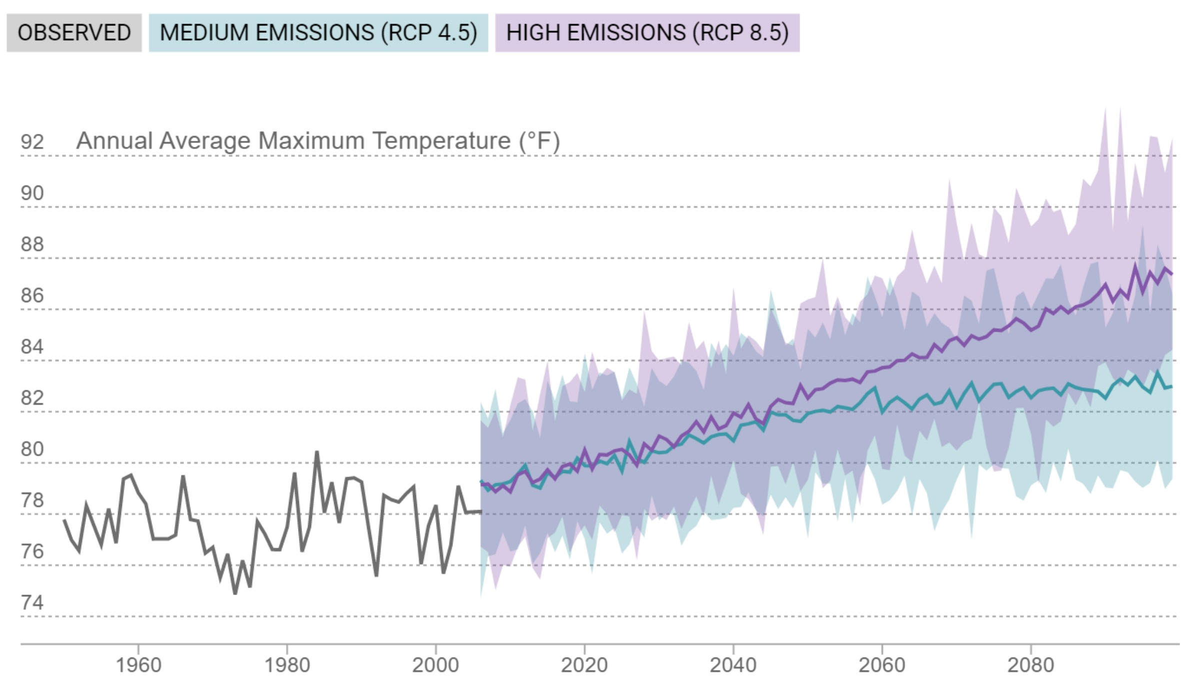
17. https://ww2.arb.ca.gov/sites/default/files/classic/cc/ghg_inventory_trends_00-19.pdf
18. https://climate.nasa.gov/scientific-consensus/
19. https://climate.nasa.gov/evidence/
20. https://www.ipcc.ch/sr15/chapter/chapter-3/
21. https://climate.nasa.gov/evidence/
22. https://www.ncdc.noaa.gov/cag/

Climate Change in the City of Montclair

In the City of Montclair, the most pronounced effects of climate change will be increased average temperature, more days of extreme heat, and elevated drought risk. The projections used in this analysis were taken from Cal-Adapt, an interactive platform that allows users to explore how climate change might affect California at the local level under different emissions scenarios and climate models, which was developed by the Geospatial Innovation Facility (GIF), University of California, Berkeley with funding and advisory oversight by the California Energy Commission. The conservative emissions scenario used in this analysis is Representative Concentration Pathway (RCP) 8.5, also known as the high emissions scenario, which is intended to project a business-as-usual continuation of current emissions. A range of climate models exist to cover the variability of physical processes, leading to warm/dry simulations and cool/wet simulations. Best practices for conservative planning indicates that an average of all models gives the most representative value. See Appendix B for further information on RCPs and climate models used.

As shown in Figure 2, The projected maximum temperatures in the City of Montclair are expected to rise between 4.4°F and 5.3°F by the end of the

Figure 2 Historical and Projected Maximum Temperatures for the City of Montclair



century depending on the emissions scenario.[23] Montclair is also projected to experience more extreme heat conditions (Figure 3). The annual number of heat waves, defined as the number of days in a year when the daily maximum temperature is above a threshold temperature of 101.4°F, is projected to increase from 12 to 16 days depending on the scenario by the end of the century. In Southern California, the top five warmest years in terms of annual average temperature have all occurred since 2012:[24] 2014 was the warmest, followed by 2015, 2017, 2016, and 2012. A trend is forming and has been observed. This shows that climate change is already impacting the City of Montclair in the form of hotter annual temperatures and longer and more potent extreme heat days.

The Cal-Adapt projections shows some change in the variability in total annual precipitation in Montclair with increased precipitation in years with high precipitation and a slight decrease in precipitation in low precipitation years, as illustrated in Figure 4. Even small changes in the variability of precipitation can lead to significant

23. https://cal-adapt.org/tools/local-climate-change-snapshot/
24. https://www.energy.ca.gov/sites/default/files/2019-11/Reg%20Report-%20SUM-CCCA4-2018-007%20LosAngeles_ADA.pdf

Figure 3 Number of Extreme Heat Days for the City of Montclair

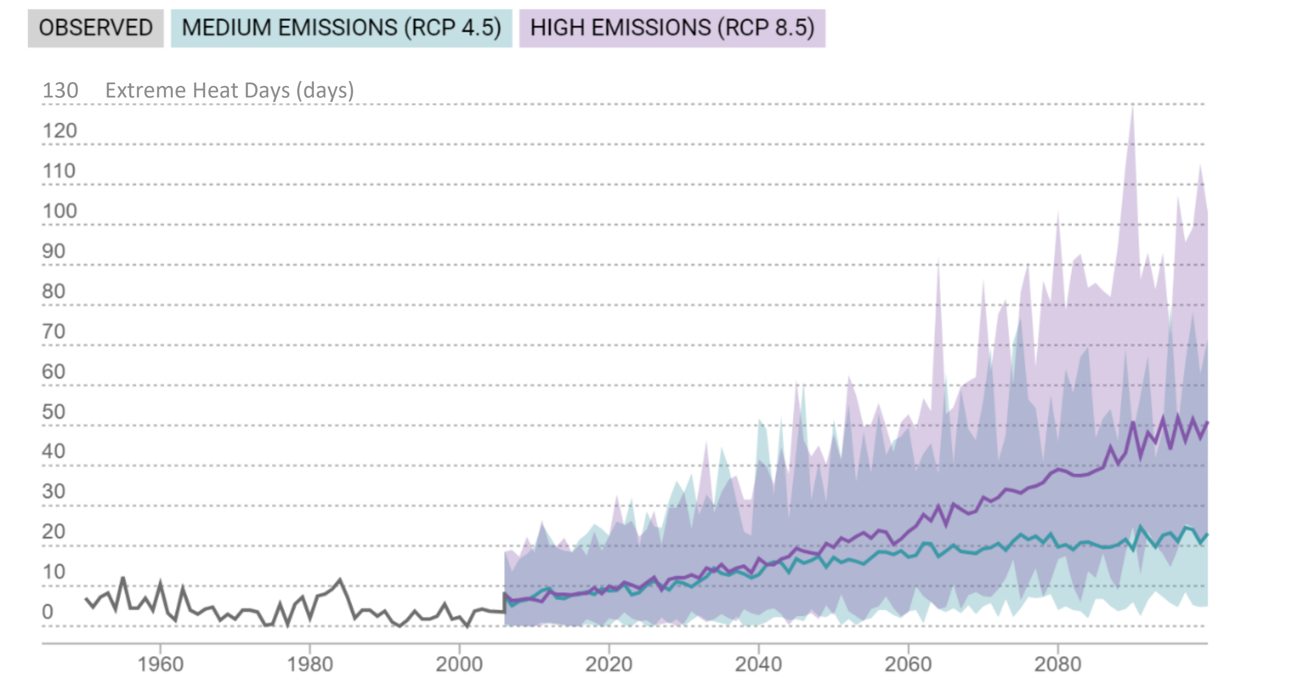
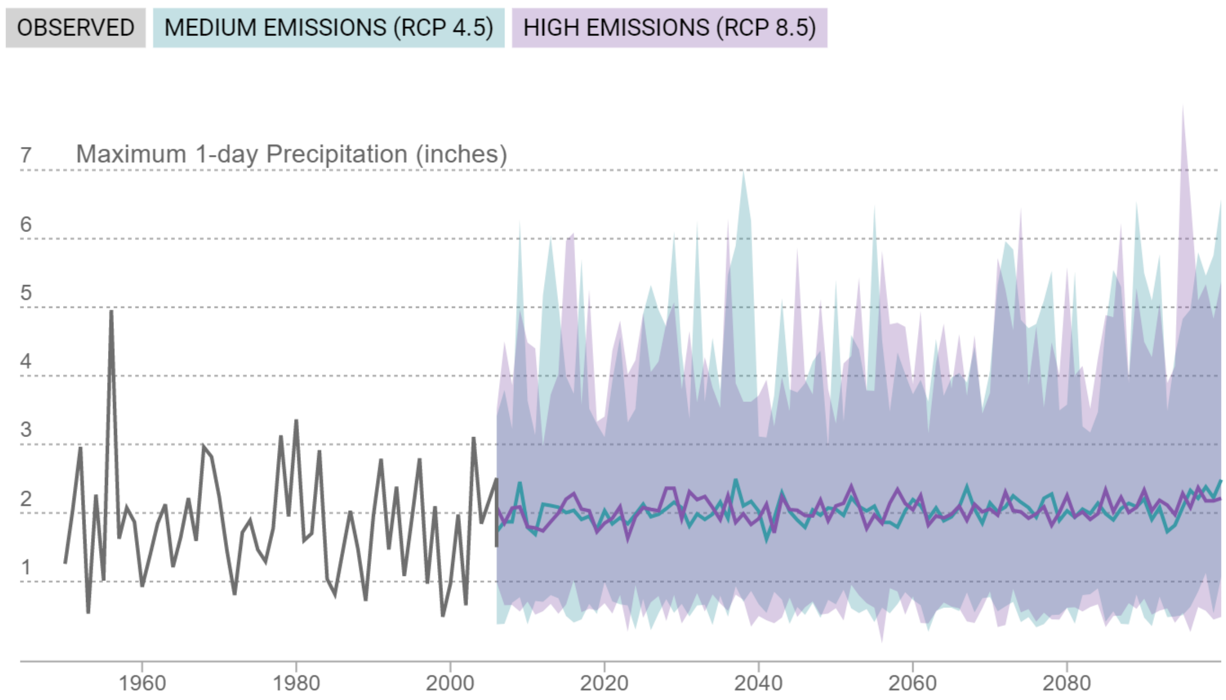
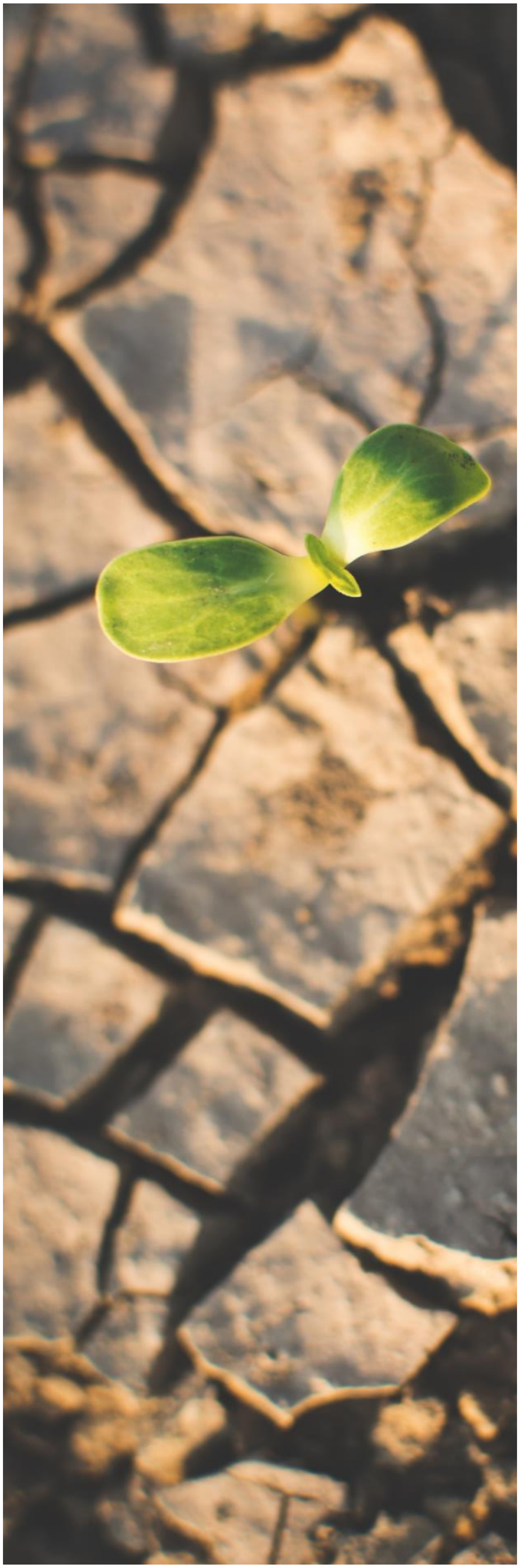


Figure 4 Annual Average Precipitation





impacts such as altered water availability throughout the year, decreased agricultural output in the region, and altered seasonal patterns which could cause increased droughts and/or flooding.

The western section of San Bernardino County, like the adjacent Los Angeles (LA) region, experiences small changes in average precipitation, dry and wet extremes, and both are expected to increase in the future. By the late-21st century, the wettest day of the year is expected to increase across most of the LA region, with some locations experiencing 25-30 percent increases under RCP 8.5. These wet day events may come in the form of an atmospheric river. Atmospheric rivers are regions of high-water vapor transport from the tropics to the Pacific Coast of the U.S. that can produce intense topographic-induced precipitation along Southern California mountain ranges.[25]

The frequency of atmospheric river events may increase in the future, and the storms themselves will be associated with higher water vapor transport rates compared to historical conditions. It is projected that we will experience a nearly 40 percent increase in precipitation during atmospheric river events over Southern California by the late-21st century under RCP 8.5. The number of atmospheric river events is also projected to increase in the future, possibly around a doubling of days by the end of the century. Moreover, the peak season of atmospheric rivers may also lengthen, which could extend the flood-hazard season in California.[26]

Extremely dry years are also projected to increase over Southern California, potentially a doubling or more in frequency by the late-21st century. Regional mountains could lose up to half their snowpack above 6,500 feet by mid-century without the implementation of climate mitigation strategies. Increases in temperature could also worsen local heat island effects in Montclair and the surrounding area, meaning that urban areas could experience a compounded level of heating due to built environments absorbing more heat than rural communities.[27] Children, the elderly, asthmatics, and others susceptible to harm from air pollution exposure, are at the greatest risk of the negative impacts associated with climate change.[28]

25. https://www.usgs.gov/news/featured-story/rivers-sky-6-facts-you-should-know-about-atmospheric-rivers
26. https://www.usgs.gov/news/featured-story/rivers-sky-6-facts-you-should-know-about-atmospheric-rivers
27. https://www.epa.gov/heatislands/learn-about-heat-islands
28. https://ww2.arb.ca.gov/capp-resource-center/community-assessment/sensitive-receptor-assessment

Social Vulnerability

Those that are most vulnerable will bear the greatest burden associated with the potential impacts of a changing climate. Race, ethnicity, gender identity, sexual orientation, age, social class, physical ability, religious or ethical value systems, national origin, immigration status, linguistic ability, and zip code do not make an individual inherently vulnerable. Instead, vulnerabilities relate to deficiencies in the system rather than a judgement of any particular community member or neighborhood. This document aims to provide a foundation to ultimately reduce potential burdens of climate change on vulnerable populations.

According to the California Healthy Places Index (HPI), Montclair is in the 3.3 percentile for a clean environment in California. Meaning, that the City has a cleaner environment than just 3.3 percent of other California census tracts. This includes air quality Ozone, $PM_{2.5}$, and Diesel PM as well as access to safe drinking water. Overall, the City of Montclair is in the 38.6 percentile, which means it is a healthier community than 38.6 percent of other California census tracts.[29] The HPI identifies challenges that could be exacerbated as climate changes impacts unfold.

Potential Impacts to the Community

The City of Montclair may experience a variety of impacts due to climate change including an increase in average temperature and changes in precipitation, as outlined above under *Climate Change in the City of Montclair*. Increased temperatures have the potential to affect public health as a result of changing environmental conditions including extreme weather events, changes in temperature and rainfall, worsening air quality, and increases in allergens and disease vectors.[30] This could lead to hazardous conditions such as heat stroke and respiratory ailments for community members. Potential impacts to public health include cardiovascular disease, exacerbation of asthma, increased risk of skin cancer and cataracts, and heat-related illnesses such as heat stroke, heat exhaustion, and kidney stones.[25] Those in the community without health insurance (about 12.9

29. https://map.healthyplacesindex.org/

30. A disease vector is a living organism that transmits an infectious agent from an infected animal to a human or another animal. Source: https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases

31. https://resources.ca.gov/CNRALegacyFiles/docs/climate/01APG_Planning_for_Adaptive_Communities.pdf

percent of the population under 65) and those living under the poverty line (approximately 14.6 percent of the population) are particularly vulnerable.[32]

With anticipated increases in temperature, those without health insurance and/or those that are economically disadvantaged may find it more difficult to afford the additional costs of cooling their homes. Consequently, many low-income households, especially those of seniors and disabled individuals may become physically vulnerable to the effects of extreme heat events. It is imperative that the City of Montclair take action now to mitigate and prepare for these climate threats and hazards.

32. https://www.census.gov/quickfacts/montclaircitycalifornia

Section 2: Inventory, Forecast, and Targets

Emissions Inventory

A GHG emissions inventory identifies the major sources and quantities of GHG emissions produced by City government (municipal) operations and community-wide activities within a jurisdiction's boundaries for a given year. Estimating GHG emissions enables local governments to establish an emissions baseline, track emissions trends, identify the greatest sources of GHG emissions within their jurisdiction, and set targets for future reductions.

This CAP includes a 2017 baseline inventory of GHG emissions from municipal operations and community-wide activities within the City, as well as a 2020, 2030, 2040, and 2050 "business-as-usual" forecast of how emissions in Montclair would change if consumption trends and behavior continue as they did in 2017, absent any new federal, State, regional, or local policies or action that would reduce those emissions. It is important to note that the municipal operations inventory is a subset of the community inventory, meaning that the municipal emissions are included within the community-wide inventory.

The inventories are divided into four sectors, or sources of emissions: energy (electricity and natural gas), transportation, solid waste, and water consumption. Like all GHG emissions inventories, this document must rely on the best available data and calculation methodologies. Emissions estimates are subject to change as better data and calculation methodologies become available in the future. Nevertheless, the findings of this analysis provide a solid basis upon which Montclair can begin planning and acting to reduce its GHG emissions.

Municipal Emissions

In 2017, the City of Montclair's municipal GHG emissions totaled 2,594 metric tons of carbon dioxide equivalents (MT CO_2e).[33] As shown in Table 1 and Figure 5, the most emissions were generated

Table 1 2017 Municipal Emissions Summary by Sector

Sector		GHG Emissions (MT CO_2e)	Percentage of Total Emissions
Energy		**1,129**	**44%**
	Electricity	1,008	39%
	Natural Gas	121	5%
Transportation		**1,270**	**49%**
	Vehicle Fleet	736	28%
	Employee Commute	534	21%
Water and Wastewater		**138**	**5%**
Solid Waste		**56**	**2%**
Total		**2,594**	**100%**

Notes:
MT: Metric tons
1. Emissions have been rounded and therefore sums may not match.
Source: Emissions were calculated following ICLEI LGOP (May 2010) and using data provided and approved by the City. See Appendix C.

33. According to the United States Environmental Protection Agency (USEPA), "the unit "CO_2e" represents an amount of a GHG whose atmospheric impact has been standardized to that of one-unit mass of carbon dioxide (CO_2), based on the global warming potential (GWP) of the gas." USEPA. October 2014. Pollution Prevention Greenhouse Gas (GHG) Calculator Guidance. https://www.epa.gov/sites/production/files/2014-12/documents/ghgcalculatorhelp.pdf

Figure 5 2017 Municipal Emissions Summary by Sector

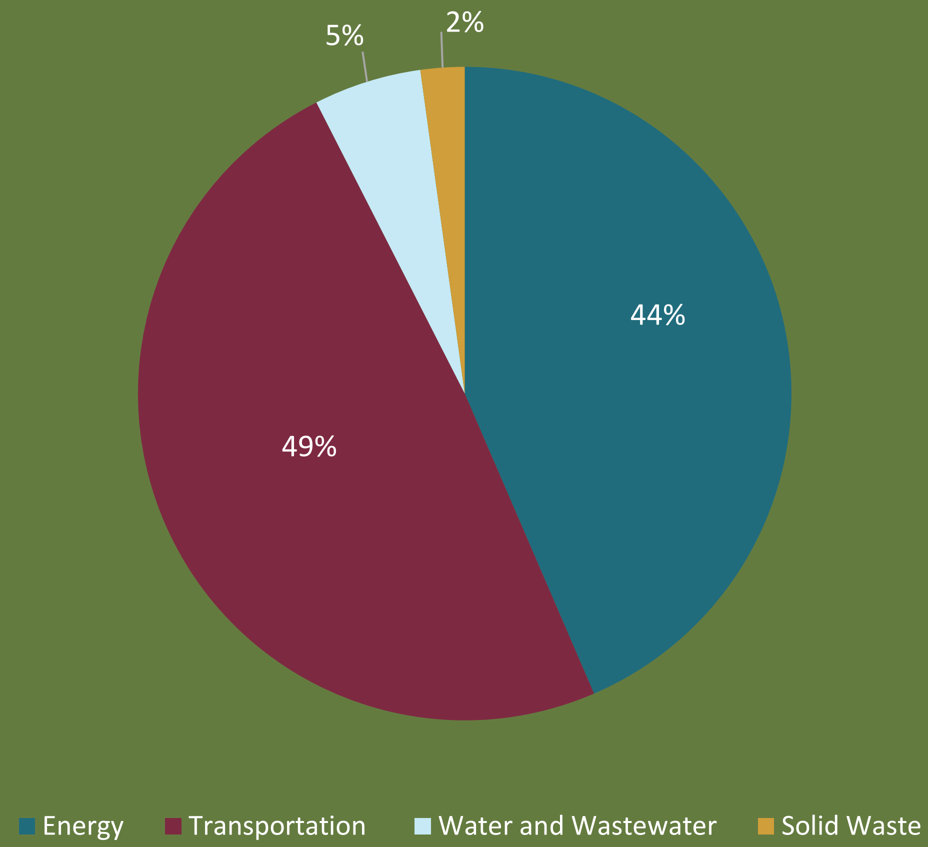
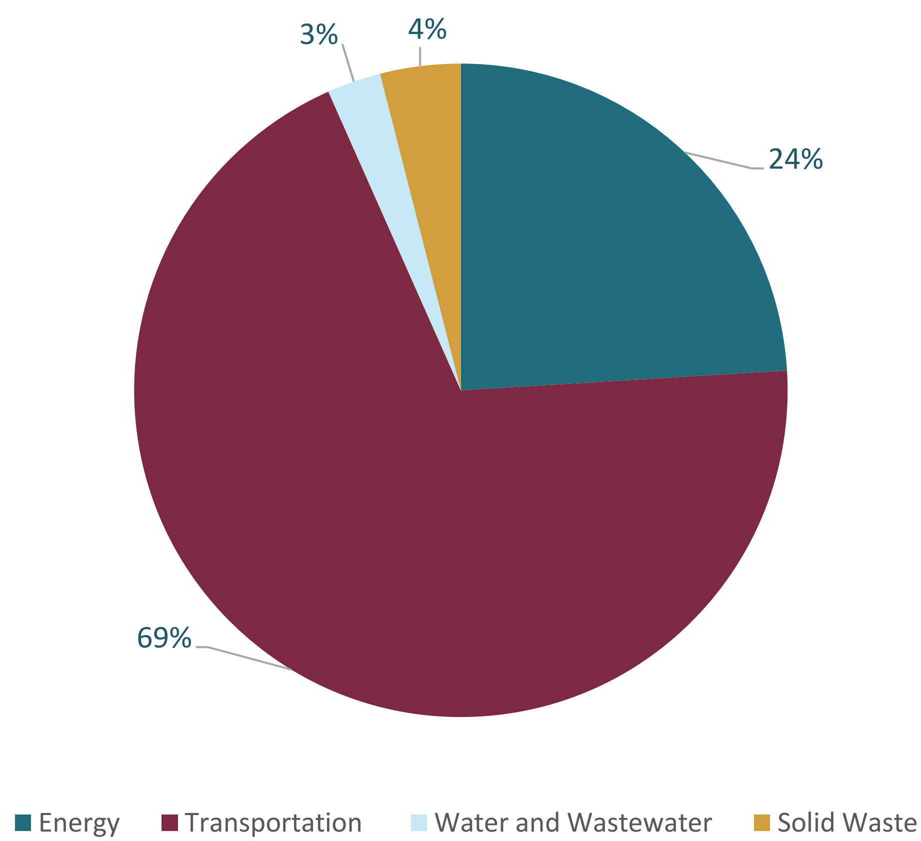


Figure 6 2017 Community Emissions Summary by Sector



by the transportation sector (1,270 MT CO_2e, or 49 percent). The second largest source of emissions (1,129 MT CO_2e, or 44 percent) were from energy (e.g., electricity and natural gas consumed in the City's buildings and facilities.

Community Emissions

In 2017, the Montclair community emitted approximately 283,074 MT CO_2e. As shown in Figure 6 and Table 2, the transportation sector was the largest source of emissions, generating approximately 196,213 MT CO_2e, or 69 percent of total emissions in 2017. Electricity and natural gas consumption (energy) within the residential, commercial, and industrial sectors was the second largest source of 2017 emissions, generating 68,047 MT CO_2e, or 24 percent of the total. Waste generation, including processing and excluding collection and transportation resulted in four percent of the City's emissions, while water use (one percent) and wastewater generation (two percent) resulted in the remaining three percent.

Emissions Forecast

Emissions forecasts (what we predict GHG emissions to be in the future) are generated from the 2017 baseline inventory to help identify actions that must be taken now in order to meet future

Table 2 2017 Community-wide Emissions Summary by Sector

Sector	GHG Emissions (MT CO_2e)	Percentage of Total Emissions
Energy	**68,047**	**24%**
Electricity	43,306	15%
Natural Gas	24,741	9%
Transportation	**196,213**	**69%**
On-road Transportation	183,577	65%
Off-road Equipment	8,802	3%
Transit	3,834	1%
Water and Wastewater	**7,557**	**3%**
Water transport, distribution and treatment	3,342	1%
Wastewater collection and treatment	4,215	2%
Solid Waste	**11,258**	**4%**
Waste Sent to Landfills	10,879	4%
Process Emissions	355	<1%
Transportation & Collection Emissions[2]	*831*	*<1%*
Combustion Emissions	24	<1%
Total[2]	**283,074**	**100%**

Notes:
MT: Metric tons
1. Emissions have been rounded and therefore sums may not match.
2. Waste transportation and collection emissions are accounted for in the on-road transportation sector of the inventory and are included here only for informational purposes.
Source: Emissions were calculated following ICLEI LGOP and using data provided and approved by the City. See Appendix C.

targets. This CAP identifies GHG emissions reduction targets for the years 2020[34] (AB 32 target year), 2030 (SB 32 target year), 2040 (City of Montclair's General Plan horizon year), and 2050 (EO S-5-03 target year).

A business-as-usual scenario provides a forecast of how GHG emissions would change in the years 2020, 2030, 2040, and 2050 if consumption trends continue as they did in 2017 and growth were to occur as projected in the City's General Plan. Montclair's business-as-usual GHG emissions are projected to increase to 296,458 MT CO_2e in 2020,[35] 330,412 MT CO_2e in 2030, 354,216 MT CO_2e in 2040, and 378,035 MT CO_2e in 2050 (see Table 3).

However, since 2017, several State regulations (i.e., SB 1, SB 100, AB 1493) have been enacted that will reduce future local emissions. These regulations have been incorporated into an adjusted forecast, which provides a more accurate picture of future emissions growth and the emission reduction the City and community will be responsible for after State regulations have been implemented (see Table 3).

Emissions Targets

After analyzing the City's baseline inventory and forecast scenarios, emission targets were set to create quantitative goals that will further the City's ability to measure emission reduction progress from the baseline scenario. Consistent with State guidance, the 2017 inventory results were used to back-cast GHG emissions to 1990 levels to ensure consistency with state goals.

34. Although 2020 has already passed, an emissions forecast was calculated to provide consistency with established State timelines.
35. The business-as-usual forecast includes an estimate for 2020 because the actual data from 2020 will likely be an outlier due to the impacts of the coronavirus disease (COVID-19) and would, therefore, not be representative of anticipated future trends.

In accordance with the new California Air Resource Board (CARB) methodology and the statewide goal established in SB 32, a efficiency target pathway was set based on the 1990 emission levels per capita of 8.2 MT CO_2e per capita.

The following GHG reduction targets were established by the City of Montclair to remain consistent with the State's 2030 (SB 32) goal and be in line with the reduction trajectory to achieve the state's long-term 2050 goal:

- Reduce GHG emissions to 4.9 MT CO_2e per capita by 2030 (the SB 32 target year)
- Reduce GHG emissions to 1.6 MT CO_2e per capita by 2050 (the EO S-3-05 target year)

As shown in Table 4 and Figure 7, Montclair would need to implement local reduction measures to meet the State targets established for 2030 and 2050, even after accounting for reductions that will result from State regulations. Table 4 shows the remaining per capita reductions needed to meet the goals (MT CO_2e per capita). Table 4 also shows the efficiency metrics translated into mass emission reductions Montclair would be required to achieve, which corresponds with a reduction of 18,583 MT CO_2e by 2030, 66,115 MT CO_2e by 2040, and 145,203 MT CO_2e by 2050 to meet the State goals.

These reductions will be achieved through implementation of local measures and actions developed from best practices of other similar and neighboring jurisdictions, as well as those recommended by State organizations and agencies. The measures and actions were vetted by City staff and the community and are quantified to identify their overall contribution to meeting the City's 2020, 2030, 2040, and 2050 GHG reduction targets, as outlined in Section 3. See Appendix C for more information on the forecast and targets.

Table 3 Business-as-Usual and Adjusted Forecast for City of Montclair

Emission Forecast	2020 (MT CO_2e)	2030 (MT CO_2e)	2040 (MT CO_2e)	2050 (MT CO_2e)
Business-as-Usual Forecast	296,458	330,412	354,216	378,035
Emission Reductions from State Measures	2,575	68,247	120,019	145,944
Adjusted Forecast	293,883	262,166	234,197	232,091

Notes: Emissions have been rounded to the nearest whole number and therefore sums may not match.
See Appendix C.

Table 4 Community Emissions, Targets, and Reductions Needed to Meet Targets

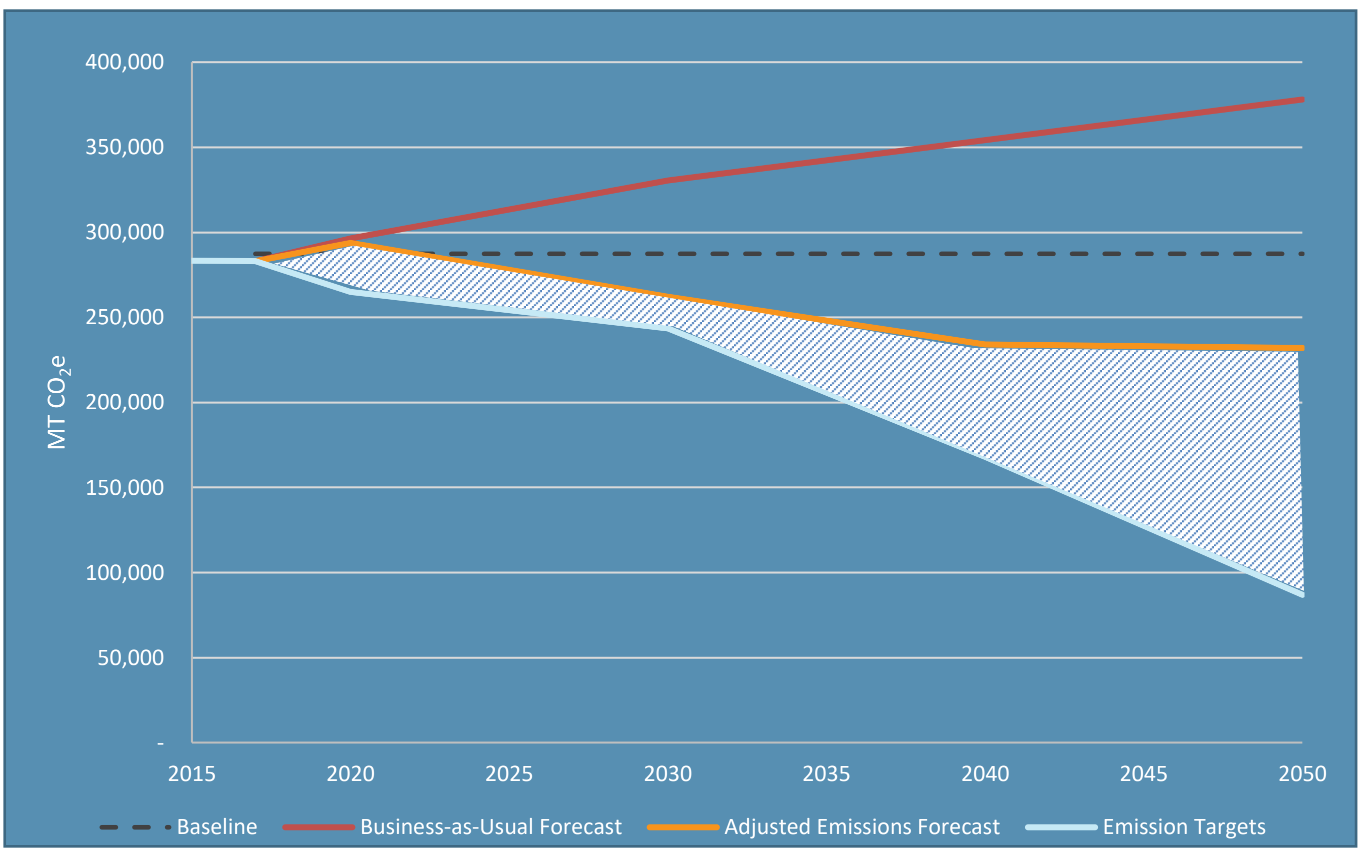
Emission Forecast	2020 (MT CO_2e)	2030 (MT CO_2e)	2040 (MT CO_2e)	2050 (MT CO_2e)
Population[1,2]	39,501	49,672	51,414	53,156
Adjusted Forecast	293,883	262,166	234,197	232,091
Per Capita Adjusted Forecast (MT CO_2e per capita)	7.4	5.3	4.6	4.4
Per Capita Targets (MT CO_2e per capita)	6.7	4.9	3.3	1.6
Remaining Per Capita Reductions Needed to Meet Target (MT CO_2e per capita)	0.7	0.4	1.3	2.7
Absolute Emission Reductions Needed to Meet Target (MT CO_2e)[3]	*28,900*	*18,583*	*66,115*	*145,203*

1. Population from SCAG 2020 RTP/SCS Demographic and Growth Forecast. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579
2. Population values were adjusted to account for RHNA allocation of housing needs for Montclair during the 2021-2029 cycle. https://scag.ca.gov/sites/main/files/file-attachments/6th_cycle_final_rhna_allocation_plan_070121.pdf?1646938785
3. Efficiency emission reductions needed translated to mass emissions by multiplying the per capita reductions by the population.

Note: Emissions have been rounded to the nearest whole number and therefore sums may not match.

See Appendix C.

Figure 7 Community Emissions, Targets, and Reductions Needed to Meet Targets



Section 3: Emissions Reduction Measures

Reduction Strategy

Montclair's GHG emissions reduction strategy, which is outlined in this section, includes measures and supporting actions that set the City on a path to reduce emissions and meet the adopted target detailed in Section 2 for 2030, while also putting the City on the trajectory to meet the longer-term target established for 2050. We recognize that achieving the targets will require collective participation from the entire community. Therefore, it was essential that voices from the community were heard, and feedback was incorporated, as applicable, throughout the design of the measures and actions included in this CAP. This ensured a collaborative platform which allowed the strategy to be developed and refined by a team of City Staff, key stakeholders, and community members. We appreciate your time and support and look forward to continue working together to make Montclair, and the world, a better place – *thank you!*

Measures and Actions in Montclair

In the energy sector, electrification will shift energy use from natural gas to electricity, maximizing GHG reductions from increasingly clean electricity, while also being cost-effective and improving indoor air quality. Emission reductions from the transportation sector will come from increasing the adoption of electric vehicles (EV), as well as achieving a shift towards more use of and opportunities for alternative transportation in the community, such as public transit, biking, and walking. Waste sector strategies focus on implementing the requirements of SB 1383, which will decrease the amount of organic waste (e.g., food scraps) that is landfilled, whereas measures in the water sector aim to reduce water consumption and thereby reduce the energy associated with treatment, transport, and disposal of that finite resource. Finally, the carbon sequestration sector will help reduce Montclair's net emissions through better management practices on natural lands. Other GHG reduction measures focus on municipal facilities and operations. With full implementation of measures and actions, the City is expected to meet its 2030 emissions reduction target. Table 5 summarizes the measures and expected GHG reductions in 2030 and 2050.

Table 5 Greenhouse Gas Emissions Reduction Measure Potential

Measure		GHG Emissions Reduction Potential
Building Energy		
BE-1	Join the CPA at the 100% Green Power rate and strive for a less than 4% opt-out rate for residential and commercial customers by 2030.	2030: 29,500 MT CO_2e 2050: 0 MT CO_2e
BE-2	Electrify 100% of newly constructed buildings by 2030.	2030: 2,180 MT CO_2e 2050: 4,093 MT CO_2e
BE-3	Improve energy efficiency by 25% in existing residential buildings and 20% in existing commercial buildings by 2030.	2030: 6,437 MT CO_2e 2050: 14,681 MT CO_2e
Transportation		
TR-1	Develop and implement an Active Transportation Plan to shift 6% of passenger car vehicle miles traveled to active transportation, and 12% by 2050.	2030: 569 MT CO_2e 2050: 1,374 MT CO_2e
TR-2	Implement a public and shared transit programs to achieve 10% of public transit mode share by 2030 and 30% by 2050.	2030: 5,205 MT CO_2e 2050: 19,888 MT CO_2e
TR-3	Increase passenger electric/alternative fuel vehicle adoption to 20% and commercial electric/alternative fuel vehicle adoption to 10% by 2030.	2030: 17,904 MT CO_2e 2050: 72,098 MT CO_2e
TR-4	Equitably increase use of EVs, promote active transportation and public transit use by disadvantaged communities	2030: Supportive 2050: Supportive
Water		
W-1	Reduce per capita water consumption by 10% compared with 2017 levels by 2030 and 25% by 2050.	2030: 252 MT CO_2e 2050: 0 MT CO_2e
Solid Waste		
SW-1	Implement SB 1383 requirements and reduce community-wide landfilled organics 75% by 2025 and inorganic waste by 35% by 2030 and reduce all waste to 100% by 2050.	2030: 2,553 MT CO_2e 2050: 3,627 MT CO_2e
Carbon Sequestration		
CS-1	Increase carbon sequestration and green space by planting 1,000 new trees through the community by 2030.	2030: 18 MT CO_2e 2050: 35 MT CO_2e
SW-1	Achieve compost procurement requirements of SB 1383.	2030: 914 MT CO_2e 2050: 978 MT CO_2e
Total		**2030: 65,533 MT CO_2e** **2050: 116,775 MT CO_2e**

Climate Action Co-benefits

Measures and actions that aim to reduce the impacts of climate change often have co-benefits associated with them, which are considered positive factors that are additional to the primary emission reductions achieved. For example, actions that increase electrification in homes have the co-benefit of reducing indoor air pollutants, and, therefore, improve air quality and public health. The specific co-benefits that are considered in this CAP include clean air, cost savings, public health, resource efficiency, and opportunity to develop partnerships, and are each defined below.

- **Air Quality** – reducing GHG emissions improves air quality[36] and can prevent illness and/or premature deaths
- **Jobs/Economic Gain** – new infrastructure and systems will require a skilled workforce to install, implement, and maintain it;[37] additionally, thoughtful climate action improves competitiveness and future-proofs the economy; this co-benefit could also be attributed to measures and actions that aim to reduce the financial burden on low-income households or disadvantaged communities
- **Public Health** – increased physical activity from active transportation improves health;[38] additionally, improving air quality through reduced GHG emissions increases public health
- **Resource Efficiency**[39] – many resources that we rely on are finite and shifting what and how we use them will allow us to develop a sustainable long-term strategy for emissions reductions that establishes a safe and reliable space for future generations
- **Increased Biodiversity** – healthy, diverse ecosystems are essential for regulating climate and absorbing or storing carbon;[40] damaged and fragmented ecosystems impact nature's ability to regulate GHG emissions and protect against extreme weather

Each of the actions in Table 6 includes a summary of the associated co-benefits in order to provide a holistic understanding of climate action.

---

36. https://www.epa.gov/air-research/air-quality-and-climate-change-research
37. https://www.wri.org/insights/10-charts-show-economic-benefits-us-climate-action
38. https://www.cdc.gov/climateandhealth/effects/default.htm
39. https://www.unep.org/resources/report/resource-efficiency-and-climate-change-material-efficiency-strategies-low-carbon
40. https://ec.europa.eu/environment/nature/climatechange/index_en.htm

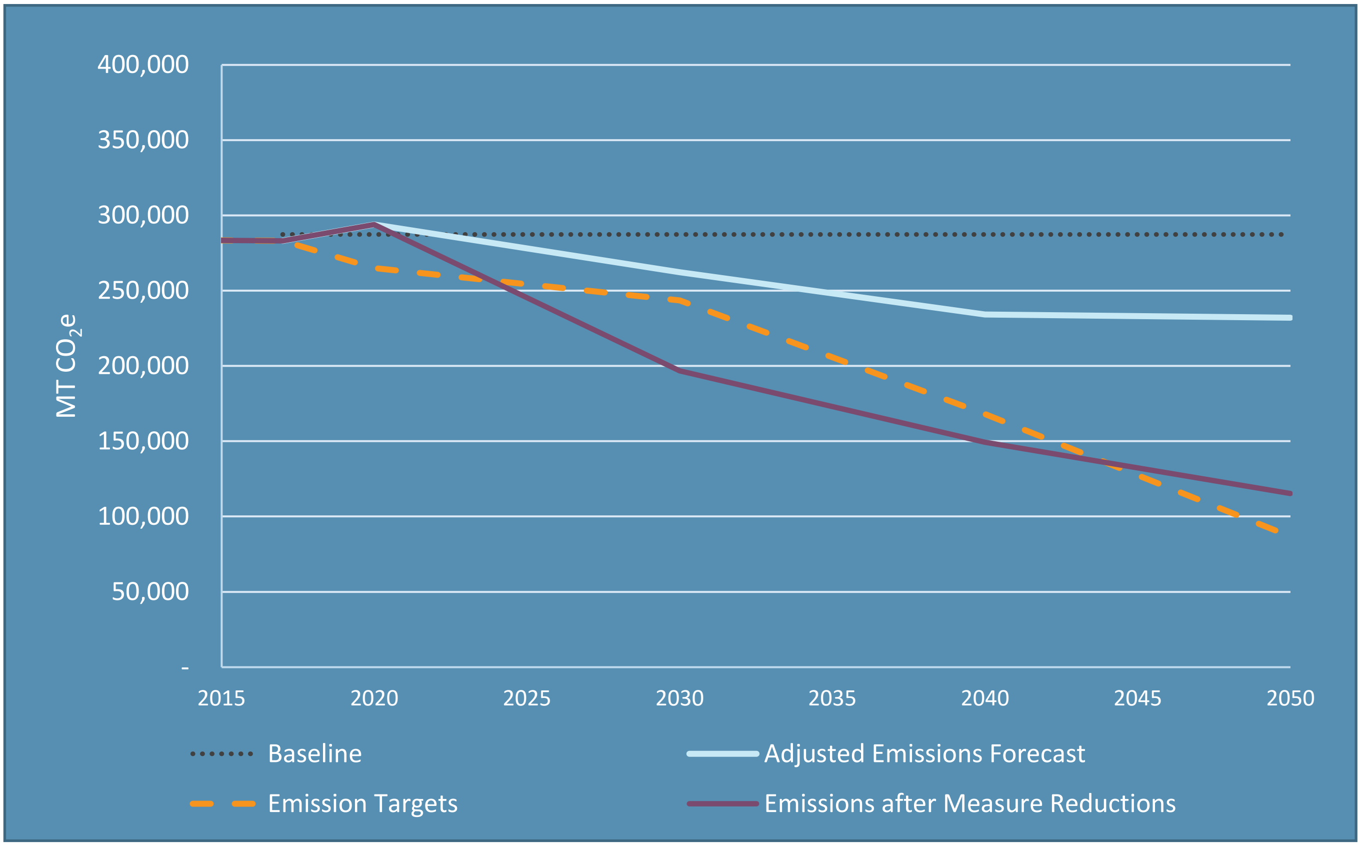
Meeting the State's Goals

The measures and supporting actions outlined in this section were established and refined to meet the City's GHG emissions reduction target for 2030 and provide substantial progress towards meeting the longer-term target of 80% below 1990 levels by 2050. The 2030 and 2050 targets represent the City's fair share reductions towards achieving the State's overall climate goals (see Appendix D for more information on the emission reductions anticipated to be achieved from each measure).

As shown in Figure 8, the measures and actions established in this CAP help the City meet the 2030 target and put the City on the trajectory towards meeting the 2050 target. While the measures and actions included in this CAP reach the 2030 targets, more work is needed to reach the longer-term 2050 emission reduction target. Future iterations of the CAP will outline additional ways to meet the longer-term 2050 emission reduction target as new technologies and solutions become available.

90% of natural disasters are considered **weather/climate-related**, costing the world economy **$520 billion each year**, with **26 million people forced into poverty**
- United Nations[41]

Figure 8 Emissions Over Time with and without Emissions Reduction Measures



41. https://www.un.org/en/un75/climate-crisis-race-we-can-win

This page intentionally left blank.

Section 4: Adaptation

Adaptation and Resilience in the City of Montclair

As mentioned in the *Introduction*, the City of Montclair is likely to experience more extreme heat events, increases in droughts due to reductions in fresh-water supply, and increased average temperatures.[42] These impacts will have varying effects on the City's residents, business owners, and visitors; infrastructure; environment; and economy; therefore, steps to increase the community's adaptive capacity[43] must be taken to prepare for the future and increase the City's resilience. This section connects the measures and actions presented in this CAP and the City's General Plan to opportunities to further adapt and increase the City's resilience to climate change.

42. https://www.ipcc.ch/sr15/chapter/chapter-3/
43. Adaptive capacity is the potential or ability of a system, region, or community to adapt to the effects or impacts of climate change.

Increased Average Temperatures and Extreme Heat Events

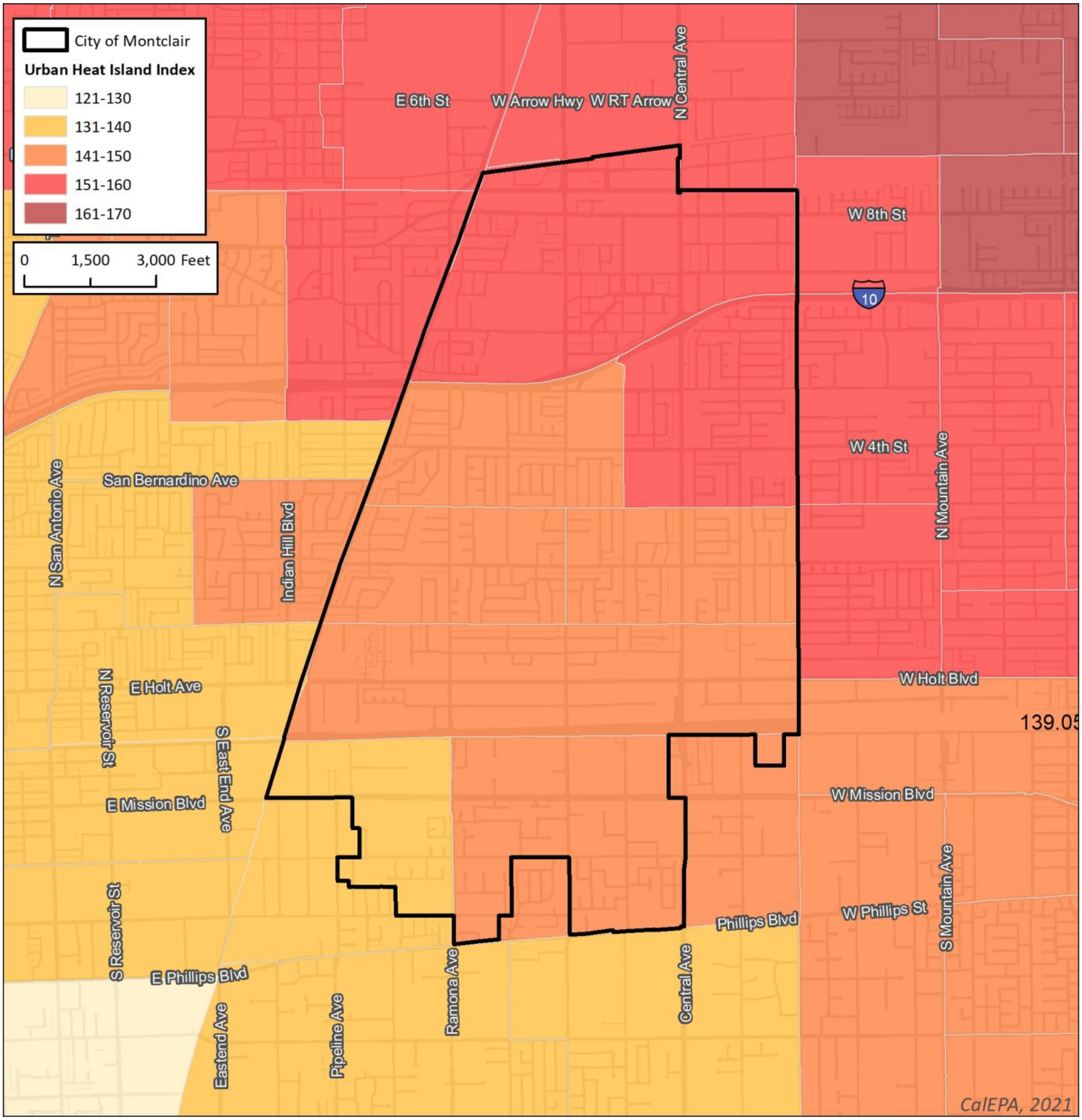
An increase in extreme heat days coupled with more heat waves will result in longer heat waves.[44] Extreme heat events will have greater effects on frontline communities and populations such as the homeless, aging adults, outdoor workers, people with chronic illnesses, and pregnant women. According to The California Healthy Places Index, the City of Montclair has less tree coverage compared with other parts of the State, which may leave vulnerable populations at increased risk of heat related illnesses.[45] To help increase the City's resilience to these events there are long-term preventative strategies such as strategic planting of trees and vegetation cover and improvements in the built environment, which are included in the various measures and actions of the CAP and General Plan because trees provide shade and reduce temperatures through evapotranspiration.

44. https://cal-adapt.org/tools/annual-averages/
45. https://map.healthyplacesindex.org/

For example, Measure CS-1 includes Action 4, which aims to identify and participate in partnership opportunities necessary to plant and maintain an increase in the City's tree inventory by 15 percent by 2030, as well as Action 5, which promotes incentives to property owners and developers for greenspace inclusion. Additionally, each of the energy measures aims to improve the built environment. Measure BE-2 relates to new buildings, while Measures BE-3 is designed for existing buildings already within the City. Likewise, the General Plan includes projects that promote cooling strategies, which include planting shade trees, and installing cool paving as well as shade structures.

Benefits from strategically planted trees and vegetation can help reduce peak summer

Figure 8 City of Montclair Urban Heat Island Effect Map



temperatures by 2-9°F, depending on the species and planting location.[46] Increased tree cover and vegetation will help mitigate the effects of urban heat islands. Urban heat islands are defined as urban areas, where these structures are highly concentrated and greenery is limited, and they become "islands" of higher temperatures relative to outlying areas. According to the California Environmental Protection Agency (CalEPA) Urban Heat Island Interactive Maps, which show urban heat islands in California as measured by the Urban Heat Island Index, the City of Montclair already experiences significant impacts related to the urban heat island effect.[46] See Figure 8.

Reductions in Fresh Water

As weather patterns continue to change, more precipitation is likely to occur as rain which will affect regional snowpack, and therefore, Montclair's imported water resources. Although a majority of Montclair's water supply comes from the Chino Groundwater Basin, the remaining comes from snow melt in the Sierra's.[48] The concern regarding shifts in imported water availability is echoed by the Department of Water Resources (DWR), which announced its initial State Water Project (SWP) allocation for 2022 along with several steps to manage the State's water supply in anticipation of a third dry year with reservoirs at or near historic lows in December 2021. DWR has advised these water agencies to expect an initial allocation that prioritizes health and safety water needs and that the SWP will not be planning water deliveries through its typical allocation process until the State has a clearer picture of the hydrologic and reservoir conditions going into the spring.[49] This shift in water resource availability will likely be ongoing into the future and will require us to adapt.

Further, as mentioned in the *Introduction*, Montclair itself will likely experience changes in precipitation, in addition to changes in available water resources from the SWP. Changes in precipitation coupled with increased temperatures can cause periods of abnormally dry weather, further affecting water-supply and groundwater recharge. While many of these issues occur at a greater regional and even global scale, the City and community can take steps to conserve water at a local level. Planting drought-tolerant landscaping can lessen the demand for irrigation and help decrease stormwater runoff. At home, residents can install high-efficiency toilets and showerheads, only run full loads of laundry and dishes, and take shorter showers; these small changes can collectively save hundreds of gallons of water a month.[50]

This CAP includes a measure that specifically aims to reduce per capita water consumption with specific goals for 2030 and 2050. The anticipated reduction in per capita water consumption would be achieved by adopting an ordinance that requires non-residential water use disclosure; adopting a cool pavement ordinance to reduce the urban heat island effect and improve water quality; adopting an ordinance that restricts the use of potable water for non-potable uses and requires grey water capture for excessive water using land uses; and developing a Recycled Water Master Plan that identifies access to recycled water and the quantity available to the City, as well as additional supportive actions. Further, Measure W.1 includes Action 6, which aims to convert impermeable surface and increase infiltration. Additionally, the General Plan includes actions to promote the use of captured rainwater, grey water, or recycled water (A.1.1d) and Policy P1.7, which states that Montclair will protect, conserve, and replenish existing and future water resources.

Air Pollution

The combustion of fossil fuels, especially within the transportation sector, leads to decreased local air quality and health consequences for local communities. If temperatures continue to rise as predicted in the Cal-Adapt scenarios, there will be more days with weather conducive to ozone formation, leading to reduced air quality and increased health problems. To help improve local air quality, community members can opt to bike, take public transit, or carpool instead of taking their personal vehicle.[51]

46. https://www.i4es.org/benefits-of-urban-forestry/
47. https://calepa.ca.gov/climate/urban-heat-island-index-for-california/urban-heat-island-interactive-maps/
48. https://www.mvwd.org/175/Groundwater
49. https://water.ca.gov/News/News-Releases/2021/Dec-21/SWP-December-Allocation
50. https://water.ca.gov/Water-Basics/Conservation-Tips
51. https://ww2.arb.ca.gov/our-work/topics/simple-solutions-improve-air-quality

Section 5: Implementation

There is Hope – Shifting the Narrative

Despite the very real impacts of climate change that we currently face and will continue to experience, there is hope and we can work collectively to reduce the burdens from climate change in order to establish a more resilient and sustainable future. The actions that we take in our home, at work, and in the community shape our world. As a team, we must act swiftly, yet strategically to support a cause bigger than ourselves. That being said – it's not too late.

This section details the implementation timeframes, responsible parties for implementation, and performance metrics necessary to help monitor and track the success of CAP implementation.

Moving the Dial

This CAP represents the City's first climate planning document and it aims to set the City on a course to reduce GHG emissions consistent with the State's goals in order to build a safer, healthier, and more sustainable future for everyone in Montclair. Achieving the emission reduction targets included in this CAP and meeting the State goals outlined in SB 32 and EO S-3-05 will require considerable changes and participation from the entire community, including residents, businesses, and the City.

The measures and actions outlined in Section 3, *Emission Reduction Strategies,* provide the first steps towards reducing our impact and will be reevaluated and reestablished as time goes on and progress is made. Additional work will need to be done and updates to the CAP will be required in the future as new technologies and solutions become available. It is anticipated that the success of the existing measures will be reviewed in 2025 and again in 2028 to ensure that the measures are implemented as currently proposed and the emissions reductions attributable to the measures are anticipated to meet the established targets. The CAP update schedule is summarized below under, *Going Forward.*

Climate Action Funding/Financing

This section provides a discussion of some of the funding and financing options available to the City of Montclair in order to implement measures and actions.

Funding

One of the greatest obstacles associated with climate action planning is finding and securing funding to implement various projects and initiatives. Therefore, when considering fostering sustainability in Montclair, one of the most important aspects was how the community could cost-effectively implement GHG reduction strategies in both the present and future. As such, the implementation schedule was developed based on the measures and actions that had either no or low-costs for the community.

Full implementation of the City's CAP will require investments on the part of the City, local households and property owners, and commercial businesses. In most cases, the expenditures will not only help to reduce GHG emissions but will also bring other valuable co-benefits as described in the measures and actions. The CAP will be implemented over time. Funding sources for some actions can be identified at the outset, while the best means to fund other actions will be determined at the time the City is ready to implement them, depending on the resources available. In general, three main principles should guide how future climate action initiatives should be funded, which include equity, cost-effectiveness, and leveraging local resources, as shown in Figure 9.

Financing

One of the major financial tools available to make large investments into infrastructure, vehicles, or buildings is financing. Financing allows us to leverage the time value of money and put future expected money flows to use today. Further, understanding the ranges of cost savings and revenue streams, and how those costs and revenues accrue over time into a payback or return on investment calculation, are prudent factors to structuring partnerships, engaging stakeholders, and making optimal financial decisions. For example, energy efficiency retrofits can generate cost savings of more than 30% for 15 to 20 years. If external partners are involved, such as with an energy savings performance contract, cities may not need to provide any upfront capital, but the project's cost savings would accrue with a private

Figure 9 Funding Strategy Principals

Equity
Limit the imposition of new costs on the segments of the community that have the least ability to shoulder increased cost; target assistance to low- and moderate-income households

Cost-Effectiveness
Prioritize the use of available local resources to implement the measures and actions that have the highest GHG reduction potential; when possible, the measures and actions in the CAP will generate long-term cost savings that will repay and even generate a return on investment.

Leveraging Local Resources
Leverage General Fund resources and in-kind staff time to aggressively seek grants, matching funds, in-kind contributions, and other resources from State, federal, and philanthropic sources to help pay for actions and limit the cost to the City, local residents, and businesses

third-party and be lost by the City. An anaerobic digester may need $5M to $10M in upfront capital but could also generate $1 to $2M annually in natural gas delivery revenue. Over 20 years, that can be an attractive financial investment for a City. Cities must consider the estimated return on investment, how project costs and revenues balance out over the useful life of the project, and whether they are willing to forego long-term cost savings or revenue generation capacity by partnering with a private third-party.

Cost of Doing Nothing

The alternative to implementing climate action measures is not zero. One immediate example is the cost to install conduit and panel capacity for EV chargers for all new construction. While this action increases upfront construction costs by a few hundred dollars, doing that same work after the building is completed can be an order of magnitude higher (~$3,000). Given the move towards EV, the cost of not installing EV infrastructure today could cost the community significantly more in the future. In a similar vein, adaptation measures will cost the City and the community today. Planting trees, installing microgrids, and setting up cooling centers all have upfront costs. However, it's imperative that we weigh these costs against the costs of a future without these adaptive measures given what we know about the climate.

The Red Cross and Red Crescent Societies estimate that the number of ***people in need of humanitarian aid each year could double to 200 million annually by 2050*** *due to climate change* ***costing $20 billion per year.*** [52]

Research published in the journal, Nature, predicts the cost of not decreasing emissions to carbon neutrality by mid-century could range between $149.78 to $791.98 trillion by the end of the century.[53] That same study found that if we mitigate climate change and achieve carbon neutrality by mid-century the world could see a $127 to $616 trillion economic benefit after considering the cost of mitigation. The humanitarian impact is also significant. Furthermore, the World Resources Institute has found that investing in adaptation and resilience provides a benefit-cost ratio ranging from 2:1 to 10:1, meaning that for every dollar invested in resilience and adaptation we stand to see $2 to $10 dollars' worth of benefits.

52. https://www.ifrc.org/press-release/200-million-people-need-us20billion-respond-new-report-estimates-escalating-humanitarian-cost
53. https://www.nature.com/articles/s41467-020-15453-z

Going Forward – Monitoring Success and Correcting Course

If substantial progress has not been made towards reaching the GHG emissions reduction targets by the first review (2025), a CAP update may be required to establish new or more robust emissions reduction measures and actions to increase emission reductions and maintain status as a CEQA-qualified GHG emissions reduction plan. The CAP update could require additional implementation of the existing actions and/or additional actions such as shifting incentive and educational programs to mandatory requirements. A complete CAP update for post-2030 emissions reductions targets will also be required, and City Staff shall begin this effort by 2028, during the second review.

Who's Responsible?

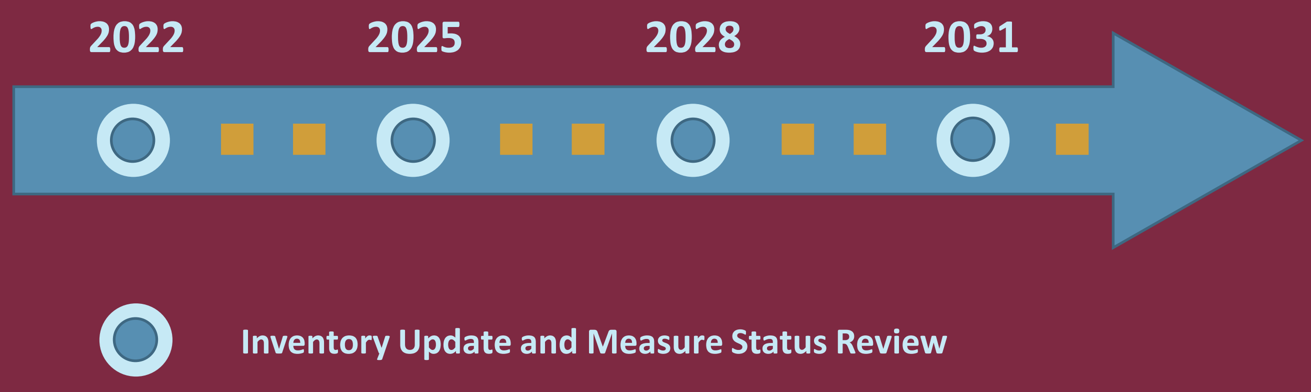
Climate action starts with us and achieving long-term emission reduction goals will require participation from everyone. Without concentrated, collective action, achieving our long-term goals will be nearly impossible and under that scenario, the impacts of climate change are only anticipated to intensify. The City can update building codes, provide electric vehicle charging infrastructure and designate bike lanes, but it is up to the broader community to embrace these new services and technologies and gain the benefits outlined in this Plan.

Making meaningful progress towards reducing our GHG emissions starts with City leadership, through policies, education, ordinances, and investments that act as catalysts for change throughout the wider community. Community partners then support these policies with incentives and programs. Businesses can then leverage these policies to provide new services and adopt more sustainable practices. Finally, residents and visitors that have been provided with the incentives and education, can actively work together to reduce our impacts and decrease GHG emissions. As policies and programs are developed and infrastructure is constructed, City Staff will continue to engage the community, provide informative progress updates, and create ongoing opportunities to solicit community feedback. We look forward to working together to reduce our long-term impact from GHG emissions.

Looking Ahead

New iterations of the CAP will be required as time goes on and new technology and information become available. It is anticipated that the inventory will be updated and the measures will be reviewed every three years, as shown in Figure 10. Successful implementation of a long-range planning document requires detailed tracking that will be done by City Staff in all departments. This approach is essential to successful implementation because it gives everyone a seat at the table and demonstrates that climate action requires collective participation to result in real change. Table 7 shows each of the measures with supporting actions and includes the lead or responsible department that is in charge of overseeing and implementing each item. The notes column is provided for tracking and monitoring initiatives over time.

Figure 10 Implementation Monitoring Schedule



This page intentionally left blank.