

City of Piedmont  
COUNCIL AGENDA REPORT

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DATE: July 1, 2024

TO: Mayor and Council

FROM: Rosanna Bayon Moore, City Administrator

SUBJECT: Receipt of a Report on the 2022 Greenhouse Gas Emissions Inventory, and Piedmont's Climate Action Plan 2.0 Implementation Status

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RECOMMENDATION

Receive an informational update on the 2022 Greenhouse Gas Emissions Inventory and the 2024 implementation update of Piedmont's Climate Action Plan (CAP) 2.0. No action required.

EXECUTIVE SUMMARY

On March 19, 2018, the City Council adopted the Piedmont Climate Action Plan (CAP) 2.0. Following that, in 2023, the Council unanimously adopted updated climate action goals to reduce in-territory greenhouse gas (GHG) emissions (i.e., emissions occurring within City limits) 50% from a 2005 baseline level by the year 2030; and achieve carbon neutrality no later than 2045.

Every year, Piedmont's progress toward achieving its climate goals is measured and summarized in a GHG emissions inventory. This report provides information on the 2022 GHG emissions inventory, including estimates for both citywide and municipal (i.e., City Government) emissions. It also includes status updates on the implementation of the CAP 2.0's measures and actions.

In 2023, the Institute for Local Government awarded the City of Piedmont with the Vanguard Award, its highest honor through the Beacon Program. The Vanguard Award is given to one jurisdiction each year and, for Piedmont, recognizes the overall strides made in city and government emissions reductions, climate action planning, and implementation of sustainability best practices.

While Piedmont's emissions have decreased significantly from the 2005 baseline, in 2022 Piedmont's overall GHG emissions were slightly higher than 2021. This increase largely because of increased transportation-related emissions. Like in years past, most of Piedmont's emissions can be attributed to two sectors: building energy and transportation.

Furthermore, emissions projections generated from the Local Governments for Sustainability (ICLEI) demonstrate that without increased action Piedmont will not achieve its 2030 climate goal. Therefore, key focus areas for 2024 include developing an Existing Building Electrification Strategy to address building energy related emissions, promoting sustainable mobility, and

continuing to deliver communications and engagement that builds capacity for community members to take action on the CAP 2.0's measures.

## BACKGROUND

On July 17, 2023, the Council amended existing climate action goals and established the following targets:

1. Achieve municipal- and community-scale carbon neutrality no later than the year 2045, and transition to a post-carbon community.
2. Achieve an interim target of 50% emissions reductions from a 2005 baseline emissions level by the year 2030.

To monitor progress toward such goals, City of Piedmont staff conduct an annual emissions inventory. This spring, staff completed the 2022 GHG emissions inventory, attached as Exhibit A. As shown in Figure 1, the highest emitting sectors have consistently been transportation (51.1% of 2022 emissions) and residential energy (43.8%).

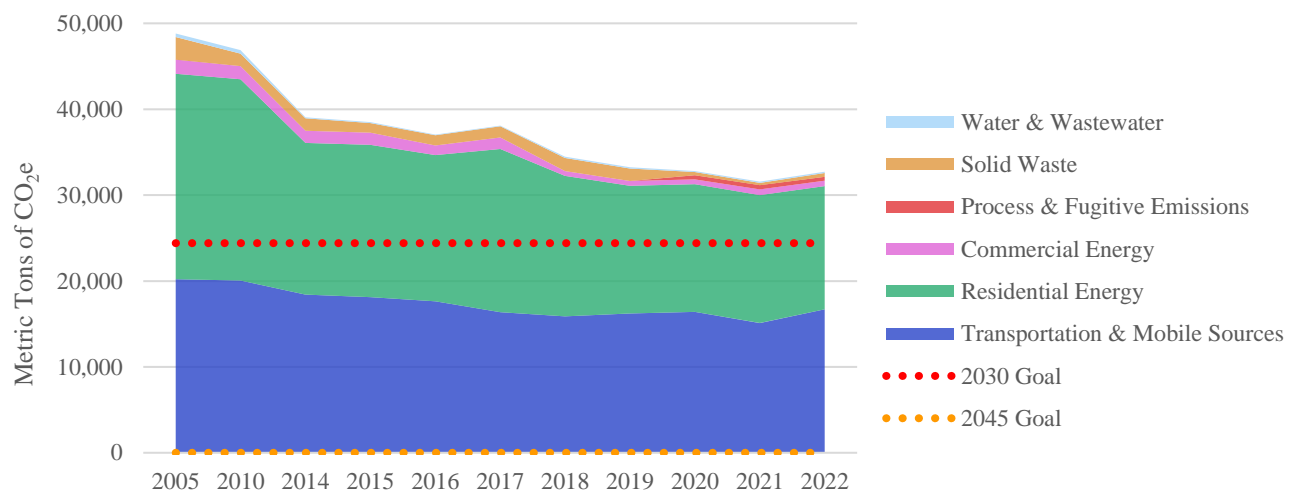


Figure 1. Annual GHG emissions inventory, by sector.

What follows is a brief overview of the two sections included in the 2022 inventory: the citywide inventory, which covers residential, business, government, and school district activities in Piedmont; and the municipal inventory, which covers only government activities. The municipal inventory is considered a subset, or “drill-down,” of the citywide inventory.

### **Citywide Emissions Update**

In 2022, in-territory emissions amounted to 32,713 metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e). The largest contributors were transportation (51.1% of emissions) and residential energy (43.8%). These two sectors have consistently remained the largest emitters since Piedmont completed its first inventory in 2005.

Altogether, citywide emissions are 33.0% below 2005 levels, but 3.62% higher than in 2021. This increase can be traced to rising emissions in five subsectors: bus travel, commercial vehicle travel, personal vehicle travel, residential electricity, and solid waste. Personal vehicle travel was the largest contributor, as it generated 66.9% of the overall increase. This is likely due to a continued return to pre-pandemic activity, as this matches a countywide trend of travel emissions rising 25% in 2021, and 6% in 2022.<sup>1</sup>

### **Municipal Emissions Update**

In 2022, municipal activities generated about 1,009 MT CO<sub>2</sub>e, or 3.09% of total in-territory emissions. This is a 10.4% increase from 2021, though mainly because staff added greater detail to the methodology.

Like previous years, the highest emitting sectors were transportation-related municipal activities (87.0% of the total), followed by solid waste (7.59%), buildings and facilities (5.20%), and process and fugitive emissions (<1%).

Please refer to Exhibit A for more detail regarding the methodology and results of the citywide and municipal inventories.

### **GHG INVENTORY CONCLUSIONS**

This year, ICLEI staff assisted with creating a “Business-as-Usual Forecast” for the years 2022 through 2030. This forecast predicts future emissions based on current emissions and patterns.

**According to the Business-as-Usual Forecast, Piedmont is not on track to meet the 2030 emissions reduction goal.** Rather, the City will have an estimated excess of over 5,000 MT CO<sub>2</sub>e.

To help tackle this gap, ICLEI analyzed the potential emissions impacts of various “High Impact Actions.” This analysis identified two pathways that would bring the City back on track to meet its goals:

1. Increase electric vehicle (EV) adoption and reduce vehicle mileage.  
Curbing transportation emissions requires increased use of EVs, e-bikes, public transit, biking, and walking.
2. Decarbonize buildings.  
Building decarbonization is largely dependent on the full electrification of new and existing buildings, the entire community’s enrollment in 100% renewable electricity, and energy efficiency improvements.

Moreover, the City can minimize its own emissions by tackling the most significant sources of municipal emissions: the City’s vehicle fleet and employee commutes. Electrifying the City’s fleet has the potential to markedly reduce municipal emissions. At the same time, policies and programs to support carpooling and using EVs could be further explored.

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<sup>1</sup> Google. (n.d.). *Alameda county* [Interactive Map]. Environmental Insights Explorer.

## CAP 2.0 IMPLEMENTATION PROGRESS UPDATE

The CAP 2.0 details the actions and measures needed to work toward the City’s climate action goals. In the past year (fiscal year 23/24), the City has made several strides toward completing these measures and actions, which are highlighted in Exhibit B. In recognition of these efforts, the Institute for Local Government awarded the City of Piedmont with the Vanguard Award, its highest honor through the Beacon Program. Exhibit B also includes a full status of all the actions and measures in the CAP 2.0 as well as a “Climate Action by the Numbers in Piedmont” one-pager, which provides a graphic overview of select cumulative actions being taken by the City and Piedmont residents as of May 2024.

## NEXT STEPS AND RECOMMENDATIONS

On February 5, 2024, Council was presented with an informational report that described the net new CAP 2.0 implementation priorities for the Sustainability Division to undertake in calendar year 2024.

As fully described in the [City of Piedmont Greenhouse Gas Emission Reduction Goals Implementation](#), priorities are:

1. With the support of a dedicated task force, develop a strategy that will outline a phased approach to a legal and equitable transition of Piedmont’s existing homes and buildings to net-zero GHG emissions.

In spring 2024, City staff selected seven community members to volunteer for the Electrification Task Force from an extremely qualified pool of over 20 candidates. Task Force members were selected based on the principals and mandate outlined in the Task Force Charter and Existing Building Electrification Strategy’s Engagement Plan, which center on bringing together diverse perspectives to better capture the barriers and opportunities of equitably catalyzing action beyond early adopters. The first Task Force meeting is planned for August 2024, with public engagement planned for fall 2024.

2. Continue to promote the EV adoption by partnering with Ava Community Energy to install four publicly available EV fast chargers on Magnolia Ave and exploring opportunities to electrify the municipal fleet.
3. Continue to deliver engagement and outreach that builds capacity for community members to take action on the CAP 2.0’s measures.

ATTACHMENTS

Exhibit A	Pages 6-30	City of Piedmont 2022 Greenhouse Gas Emissions Inventory
Exhibit B	Pages 31-57	City of Piedmont CAP 2.0 Implementation Progress and Climate Action by the Numbers in Piedmont
Exhibit C	Pages 58-72	Presentation for City Council on July 1, 2024

By: Deniz Ergun, Sustainability Program Manager  
Alyssa Romea, Climate Action Fellow



# 2022 Greenhouse Gas Inventory

An annual summary of in-territory emissions in Piedmont, California, compiled by the City Sustainability Division.



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## EXECUTIVE SUMMARY

On July 17, 2023, City Council established the following climate goals: cut 2005 greenhouse gas emission levels in half by 2030, and achieve carbon neutrality no later than 2045.

Every year, staff measure and summarize Piedmont's progress toward climate goals by calculating a greenhouse gas (GHG) emissions inventory. These inventories focus on "in-territory" emissions, or emissions caused by activities in city limits.

Staff conducted the first GHG emissions inventory in 2005, and this established the baseline against which all future emissions would be compared. This newest inventory reviews emissions from the year 2022.

Figure 1 below displays emissions over time, broken down by sector. Piedmont has made substantial progress; emissions have fallen 33.0% since 2005.

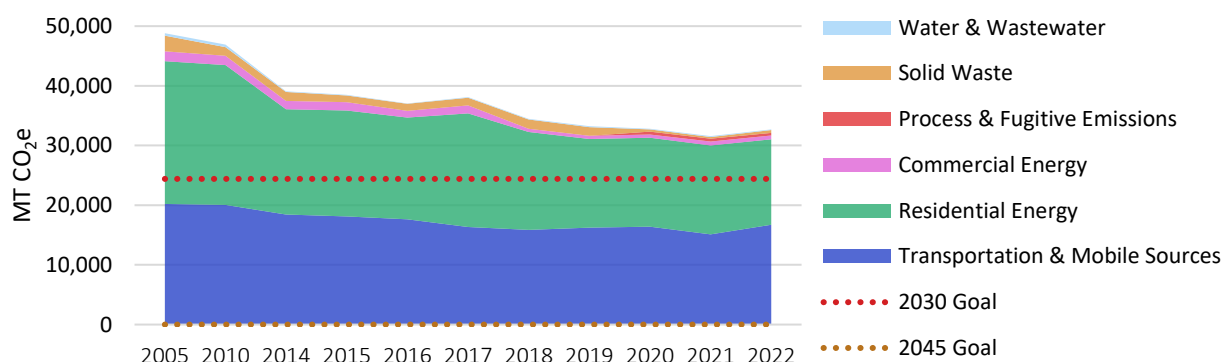
However, 2022 emissions rose 3.62% from the previous year. Personal vehicles were largely responsible for the increase, and this likely reflects a continued return to pre-pandemic travel activity.

This inventory also includes forecasting analyses by the Local Governments for

Sustainability (ICLEI). According to ICLEI's projections, without further intervention Piedmont will not meet its 2030 goal.

**Citywide emissions** demonstrate that meeting the goal will require deep changes in building energy and transportation systems, which together constituted 96.8% of 2022 in-territory emissions. The City can address these crucial sectors by supporting electric vehicle adoption, improving bike and pedestrian infrastructure, advancing building electrification programs, and continuing to share relevant funding support opportunities with residents.

**Municipal emissions** accounted for just 3.09% of citywide emissions in 2022, but these can also be minimized to provide a lead example. 87.0% of municipal emissions came from employee commutes and City fleet vehicles. Key focal areas can include electrifying the fleet and incentivizing commute mileage reductions.



**Figure 1. Citywide Annual GHG Emissions by Sector**

# GLOSSARY

<b>Carbon dioxide (CO<sub>2</sub>)</b>	a naturally occurring gas that is also a byproduct of burning fossil fuels, burning biomass, deforestation, and other industrial processes. It is the principal human-caused greenhouse gas impacting Earth's radiative balance.
<b>Carbon dioxide equivalent (CO<sub>2</sub>e)</b>	a unit of measurement for the combined impact of different greenhouse gases. Some greenhouse gases are more potent than others, so this facilitates easier comparison by expressing the amount of CO <sub>2</sub> that would have the equivalent warming impact.
<b>Carbon neutrality</b>	for the purpose of this inventory, carbon neutrality refers to the point at which in-territory greenhouse gas emissions reach zero.
<b>Greenhouse gases (GHGs)</b>	gases that trap heat in the Earth's atmosphere. GHGs include carbon dioxide, methane, nitrous oxide, and fluorinated gases such as chlorofluorocarbons and hydrochlorofluorocarbons.
<b>In-territory emissions</b>	emissions generated by activities occurring within city boundaries.



## PICTURING A METRIC TON OF CO<sub>2</sub>e

One metric ton of carbon dioxide (MT CO<sub>2</sub>) fills a sphere that is 32 feet wide.\* Another way to picture it is to “imagine a cube almost as tall, wide, and long as a telephone pole,” and bearing the weight of a great white shark.† On average, drivers emit one MT CO<sub>2</sub> for every 2,500 miles in a gasoline vehicle.

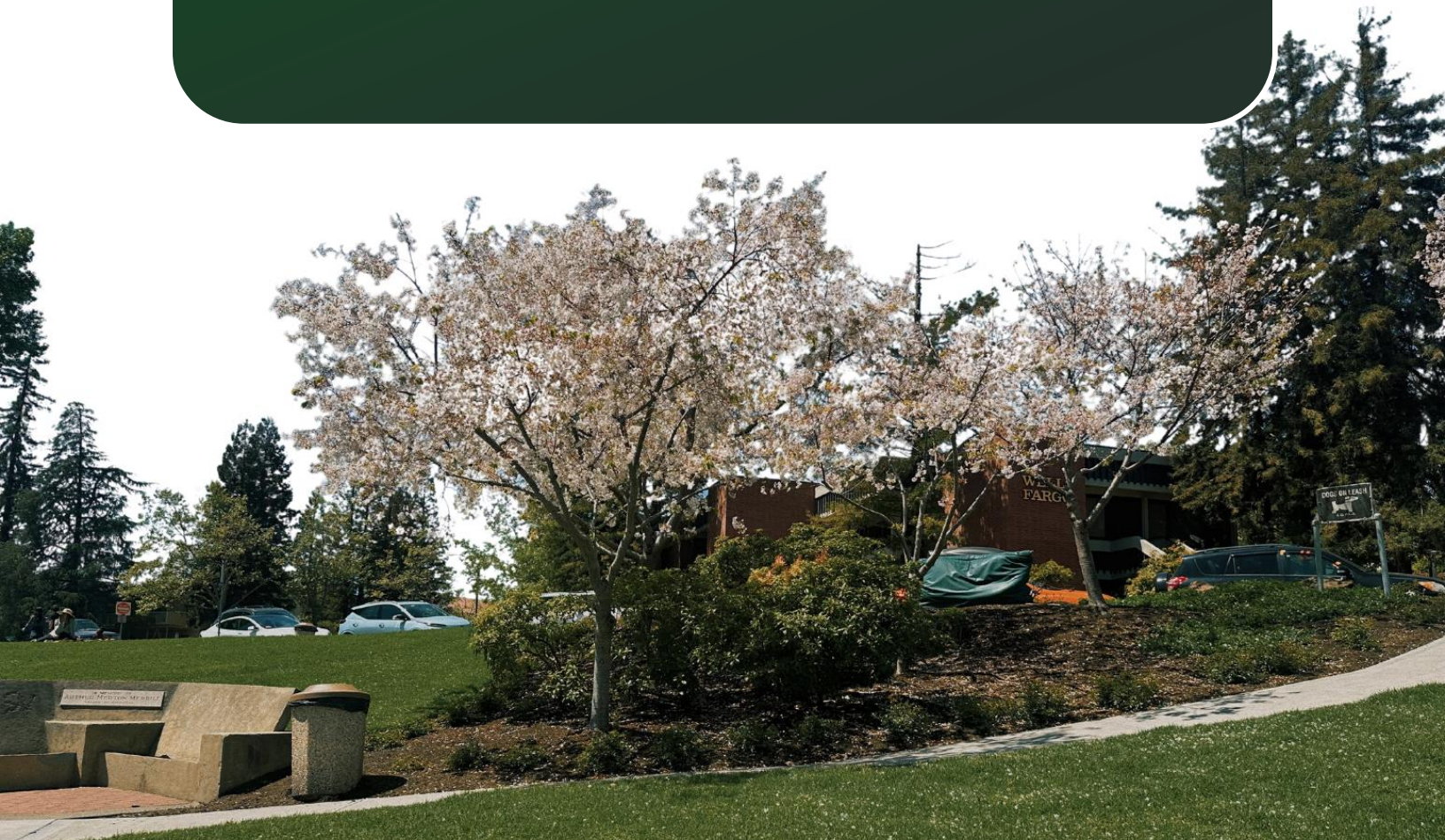


\*Conlen, M. (2021, July 15). *How much carbon dioxide are we emitting?* NASA.

†Tso, K. (2023, December 21). *How much is a ton of carbon dioxide?* MIT Climate Portal.

Image by NASA

# INTRODUCTION



Every community is grappling with the climate crisis. The root problem is clear: humans are emitting greenhouse gases (hereby referred to as GHGs, GHG emissions, or emissions) at unsustainable levels.<sup>1</sup> Over 70% of these CO<sub>2</sub> emissions occur within cities, affirming local governments' crucial responsibility to take action.<sup>2</sup>

The City of Piedmont adopted its first Climate Action Plan in 2010. This landmark policy set a goal of reducing in-territory GHG emissions by 15% below 2005 levels by 2020. Since then, the City has released a Climate Action Plan 2.0 and amended goals twice. City Council established the newest change in 2023 to align with state and federal targets.<sup>3</sup>

Piedmont's current goals are to (1) achieve municipal- and community-scale carbon neutrality no later than the year **2045**, and transition to a post-carbon community; and (2) achieve an interim target of 50% emissions reductions from a 2005 baseline emissions level by the year **2030**.

Staff conducted Piedmont's first GHG emissions inventory in 2005, establishing the baseline against which all future emissions would be compared. From 2014 onward, staff have completed an annual GHG inventory to monitor progress toward climate goals. Annual inventories also serve to guide priority climate projects for staff and fulfill the City's pledge to the Global Covenant of Mayors for Climate and Energy.

Inventories are calculated through the emissions management software, ClearPath. This software is administered by Local Governments for Sustainability (ICLEI), a global government network spanning over 120 countries. Moreover, inventories focus on "in-territory" emissions, or emissions caused by activities within city limits.

## KEY CONSIDERATION

These inventories do not include emissions generated outside city boundaries (i.e. lifecycle emissions of imported goods and services). If they did, emissions would be about seven times higher than reported in this inventory.\* If included, Piedmont is the highest emitter per capita in Alameda County. While these immense consumption-based emissions pose a significant challenge, they also demonstrate the power Piedmonters yield to curb climate change with their purchasing decisions.

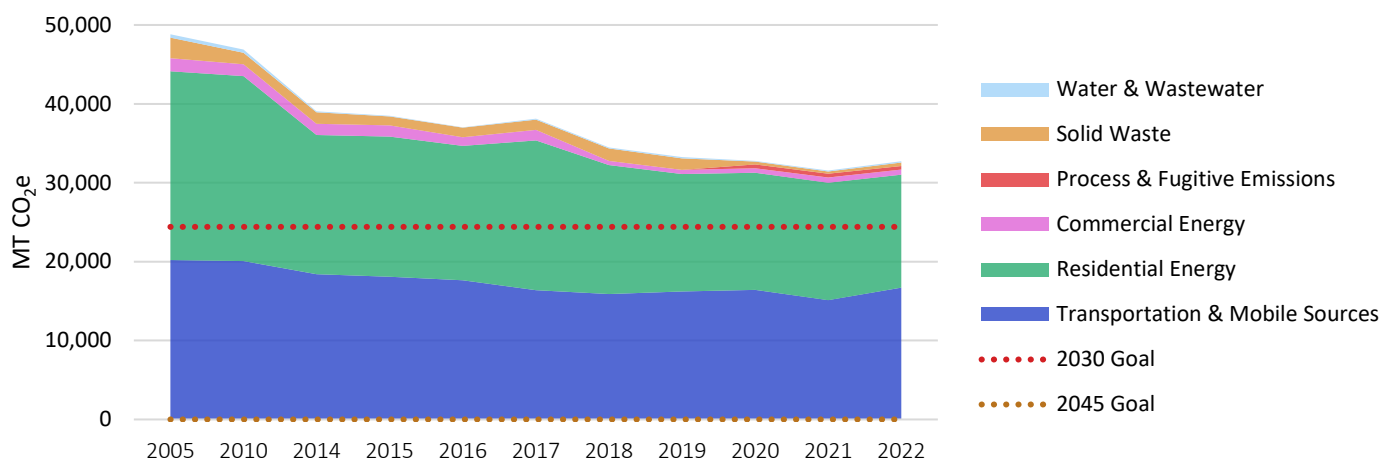
<sup>1</sup> U.S. Global Change Research Program. (2023, November 14). *The Fifth National Climate Assessment*.

<sup>2</sup> Dasgupta, S., Lall, S., & Wheeler, D. (2022, January 5). *Cutting global carbon emissions: where do cities stand?* World Bank Blogs.

<sup>3</sup> Resolution 51-2023, Piedmont City Council, (2023, July 17).

\* Jones, C. M., & Kammen, D. M. (2015). A consumption-based greenhouse gas inventory of San Francisco Bay Area neighborhoods, cities and counties: Prioritizing climate action for different locations. *UC Berkeley*.

This newest inventory assesses emissions from the year 2022. Figure 1 displays Piedmont's citywide GHG emissions over time, broken down by sector.



**Figure 1. Piedmont's 2005, 2010, and 2014 – 2022 Annual Citywide GHG Emissions by Sector**

Figure 1 demonstrates that the largest emissions reductions occurred in 2014 and 2018. In 2014, emissions fell 16.7% from the inventory prior. Local conservation and energy efficiency efforts helped drive this change. In addition, exceptionally warm seasonal temperatures meant less gas was needed to heat homes. In 2018, emissions fell 9.5% from the year prior. This was largely due to citywide enrollment in Ava Community Energy's<sup>4</sup> 100% renewable energy service plan.

**What follows is an overview of the 2022 inventory at two scales:**

1. **citywide emissions**, which covers residential, business, school, and government activities in Piedmont; and
2. **municipal emissions**, which covers only government activities. The municipal inventory is considered a subset, or "drill-down," of the citywide emissions.

<sup>4</sup> Formerly known as East Bay Community Energy (EBCE).

# CITYWIDE EMISSIONS



## In 2022, citywide emissions rose 3.62%.

Emissions consequently totaled 32,713 MT CO<sub>2</sub>e. Like in years past, the highest emitting sectors were residential energy (43.8%) and transportation (51.1%).

The 3.62% increase can be traced to five subsectors: bus travel, commercial vehicle travel, personal vehicle travel, residential electricity, and solid waste. Personal vehicle travel was the largest contributor, as it contributed 66.9% of the increase.

Table 1 lists all citywide subsectors and their percent contribution to total emissions. The table is broken down by type of major greenhouse gas: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) emissions. Subsectors are grouped by their inventory “scopes.” Scopes are a way of categorizing emissions based on where they physically occur. It helps discern indirect emissions, or those that result from Piedmont activities but occur at sources not controlled or owned by any Piedmonters.

Scope 1 covers emissions from sources located within city limits.

Scope 2 covers indirect emissions from electricity, steam, heating, or cooling.

Scope 3 covers indirect emissions from other sources such as waste disposal and outsourced activities. Reporting scope 3 emissions is optional.

**Table 1. 2022 GHG Emissions by Scope and Subsector**

	Subsector	MT CO <sub>2</sub>	MT CH <sub>4</sub>	MT N <sub>2</sub> O	Total MT CO <sub>2</sub> e	% of Total Emissions
Scope 1	Passenger vehicles	N/A	N/A	N/A	15,071	46.1%
	Residential natural gas	13,561	1	<1	13,604	41.6%
	Commercial vehicles	N/A	N/A	N/A	1,270	3.9%
	Fugitive emissions	<1	16	0	452	1.4%
	AC Transit	376	N/A	N/A	376	1.2%
Scope 2	Commercial natural gas	241	<1	<1	242	.7%
	Residential electricity	708	<1	<1	711	2.2%
Scope 3	Commercial electricity	399	<1	<1	401	1.2%
	Solid waste	0	16	0	450	1.4%
	Potable water supply	133	<1	<1	136	.4%

The following sections provide more detail about each broader sector.

## Transportation

This sector encompasses travel that begins or ends in Piedmont. In 2022, transportation generated 16,717 MT CO<sub>2</sub>e (51.1% of total in-territory emissions).



51% of emissions  
+11% from 2021

Staff calculate this sector in three parts: passenger vehicle travel, commercial vehicle travel, and public transit use. As seen in Table 2, passenger vehicles were the highest emitters and contributed 90.2% of transportation emissions.

**Transportation emissions grew 10.6% from 2021.** This is likely due to a continued return to pre-pandemic activity, as this aligns with a countywide trend of travel emissions rising 25% in 2021, and 6% in 2022.<sup>5</sup>

The transportation sector contributes the largest share of emissions, and this share has only grown in recent years. While other sectors have had declining emissions, transportation emissions have remained stagnant or increasing since 2017.

**Table 2. Transportation Emissions in 2021 and 2022**

▲ = emissions increase

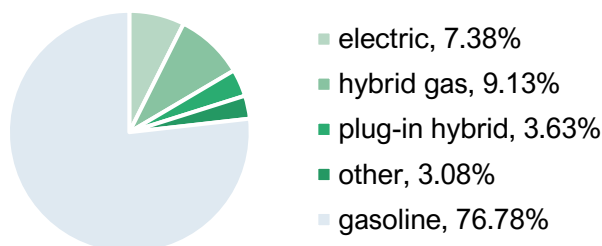
Subsector	2021 Emissions (MT CO <sub>2</sub> e)	2022 Emissions (MT CO <sub>2</sub> e)	% of 2022 Transportation Emissions
Passenger Vehicles	13,567	▲ 15,071	90.2%
Commercial Vehicles	1,223	▲ 1,270	7.6%
AC Transit	325	▲ 376	2.3%

Due to a lack of data availability, staff changed the data source for transportation emissions from previous inventories. In 2022, passenger car and bus emissions were estimated from countywide data on Google's Environmental Insights Explorer (EIE). While this complicates comparing 2022 emissions to those from previous years, this new method is likely more accurate than those used in the past, which relied on simulated (rather than observed) data. EIE's methodology is based on accepted GHG accounting principles and calculates emissions by extrapolating from Google's robust data collection of travel behavior, vehicle types, and average fuel economies.

It is also important to note this inventory does not include air travel. If airplane emissions were included, we would likely find much higher transportation emissions.

<sup>5</sup> Google. (n.d.). *Alameda county* [Interactive Map]. Environmental Insights Explorer.

One highlight is that Piedmont leads in low-emission vehicle ownership. In 2022, an estimated 20.1% of Piedmont's registered vehicles were electric or hybrid, as shown in Figure 2.<sup>6</sup> Due to California's state mandate requiring new light-duty vehicles to be zero-emission by 2035, staff anticipate the share of electric vehicle (EV) travel to become even greater over time.<sup>7</sup> In fact, zero-emission vehicles comprised 19.5% of new cars sold in California in 2022.<sup>8</sup>



**Figure 2. 2022 Known Fuel Types for Piedmont's Registered Vehicles**

## Building Energy

In 2022, building energy contributed 14,958 MT CO<sub>2</sub>e to in-territory emissions (45.7%). This was a 3.82% decrease from 2021.



46% of emissions  
-3.8% from 2021

As shown in Table 3, this sector includes four subcategories: residential natural gas use, residential electricity, commercial natural gas, and commercial electricity. In this context, “commercial” includes business and municipal activities. Only residential electricity produced greater emissions than in 2021.

**Table 3. Building Energy Emissions in 2021 and 2022**

▲ = emissions increase ▼ = emissions decrease

Subsector	2021 Emissions (MT CO <sub>2</sub> e)	2022 Emissions (MT CO <sub>2</sub> e)	% of 2022 Building Emissions
Residential Natural Gas	14,640	▼ 13,604	90.9%
Residential Electricity	239	▲ 711	4.8%
Commercial Natural Gas	248	▼ 242	1.6%
Commercial Electricity	423	▼ 401	2.7%

<sup>6</sup> California Department of Motor Vehicles. (2024). *Registered Vehicles* [Unpublished confidential dataset].

<sup>7</sup> California Air Resources Board. (n.d.). *Advanced Clean Cars Program*.

<sup>8</sup> California Energy Commission. (n.d.). *New ZEV sales in California* [Interactive Infographic].

## Natural Gas

Often, when people imagine zero-carbon buildings, “solar” is the first word that comes to mind. But while electricity sources are important, building emissions mainly come from one source: appliances powered by natural gas rather than electricity. A few examples are gas furnaces, gas water heaters, and gas stoves. Natural gas not only worsens climate change, but it also releases pollutants directly into our homes and local communities. In fact, a 2013 meta-analysis concluded that children in homes with gas stoves possess a 42% higher chance of developing asthma symptoms.<sup>9</sup>

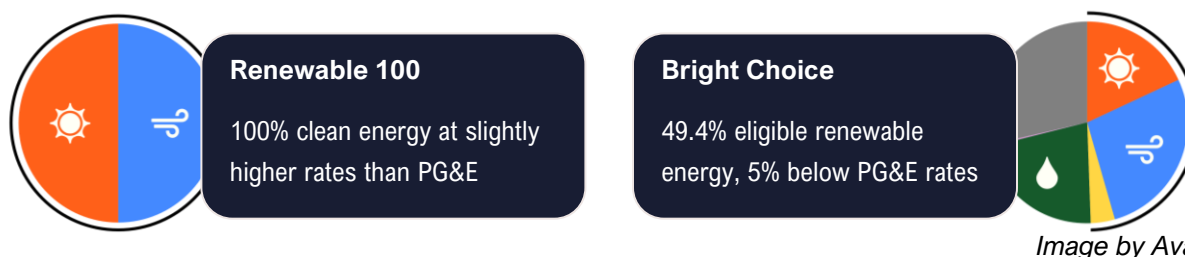
**Residential gas appliances produced 90.9% of building energy emissions.** However, residential natural gas emissions did decrease significantly (by 7.08%) for the first time in eight years — *despite* Piedmont experiencing greater “heating degree days” and “cooling degree days,” meaning homes needed more energy to maintain comfortable temperatures.<sup>10</sup>

The decrease may be partly traced to city “Reach Codes,” a local policy that began in June 2021. The Reach Codes are local amendments to the Building Code that encourage energy efficiency or electrification measures in residential renovations costing \$30,000 or more. The City does not currently prevent the installation, nor require the removal, of gas infrastructure.

## Electricity

Compared to natural gas, electricity generates much fewer building energy emissions (7.43% of the sector). Since 2005, emissions from electricity have fallen 86.6% due to most customers — including the City — enrolling in Ava Community Energy’s (Ava) “Renewable 100” service plan, which is sourced from wind and solar. Another contributor is the changing power content of other electricity service plans. For example, in 2016, PG&E’s base plan was 33% renewable; by 2022, it was 38.3% renewable.<sup>11</sup>

**However, electricity emissions were 67.7% greater than in 2021.** This is due to more Piedmonters enrolling in “Bright Choice,” a more affordable — but less clean — Ava service plan. In 2021, 5% of Ava customers were enrolled in Bright Choice; this rose to 9% in 2022.



<sup>9</sup> Lin, W., Brunekreef, B., & Gehring, U. (2013). Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children. *International Journal of Epidemiology*, 42(6), 1724–1737.

<sup>10</sup> Energy Star. (n.d.). *Degree Days Calculator* [Interactive Database]. Energy Star Portfolio Manager.

<sup>11</sup> California Energy Commission. (n.d.). *Power content label*.

## ZERO EMISSION HIGHLIGHT

In 2018, Piedmont's City Council voted to enroll all municipal and residential customers into 100% renewable energy service provided by East Bay Community Energy (EBCE). In 2023, EBCE was rebranded as Ava Community Energy (Ava).

With its headquarters in Oakland, Ava is a local, not-for-profit, public agency that supplies green power and reinvests earnings into its service area, which includes 13 cities in Alameda County. For example, in 2020, Ava helped fund the Piedmont Makers Robotics Team.\*

## Solid Waste

When organic waste (such as food, food-soiled paper, and yard waste) decomposes in a landfill, it releases methane gas. Methane is a GHG with a global warming potential 28 times stronger than CO<sub>2</sub>, meaning that it absorbs energy and magnifies climate change at an outstandingly faster rate.<sup>12</sup> This is one reason it is crucial to recycle and compost when possible.

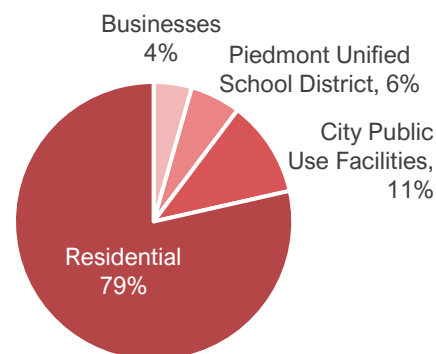
Figure 3 displays the shares of emissions from residential, business, school, and City waste bins.

**In 2022, Piedmont's solid waste diversion rate was 74.32%.<sup>13</sup>** In other words, diligent recycling and composting diverted most materials from the landfill. This rate has remained consistent over the past decade; in contrast, the statewide average is 37%.<sup>14</sup> Additionally, 74.7% of construction and demolition materials were recycled.<sup>15</sup> This rate is higher than the City's requirement (65%) and reflects a 3% decrease since 2021.

Since 2005, solid waste emissions have fallen by 82.8%, and now constitute less than 2% of Piedmont's emissions. While the 2022 emissions increased drastically from 2021, this only



1.4% of emissions  
+63% from 2021



**Figure 3. 2022 Solid Waste GHG Emissions by Source**

\* Ava Community Energy. (n.d.). *Community Sponsorships*.

<sup>12</sup> Environmental Protection Agency. (2024, March 27). *Understanding global warming potentials*.

<sup>13</sup> Republic Services. (2024, April 1). *City of Piedmont: Fourth annual report* [Unpublished report].

<sup>14</sup> CalRecycle. (n.d.). *California's 2019 per capita disposal rate estimate*.

<sup>15</sup> Green Halo Systems. (n.d.). *Recovery Totals* [Unpublished confidential dataset].

reflects greater detail in the methodology, rather than a true increase in emissions. This year, staff began accounting for landfilled organic waste types that were not previously included, such as paper packaging, plant trimmings, and treated wood.

## Water & Wastewater

Between 2005 and 2021, water and wastewater have contributed only a small percentage of total in-territory greenhouse gas emissions: between 0.1% and 1%. In 2022, this sector produced 0.42% of in-territory emissions.



0.4% of emissions  
-4.3% from 2021

All emissions in this sector come from supplying potable water. Wastewater treatment has contributed almost no emissions since 2012. This is by virtue of the East Bay Municipal Utility District (EBMUD), whose treatment plant relies entirely on renewable energy generated onsite.<sup>16</sup> The District sells surplus energy to the grid, cutting emissions and growing savings for ratepayers.

### ZERO EMISSION HIGHLIGHT

In 2012, EBMUD became the first wastewater treatment plant to produce excess renewable energy in North America. This virtually eliminated wastewater emissions from Piedmont's inventory. At the plant, microorganisms "digest" biodegradable matter in large tanks of sewage, food scraps, and other waste. As they do so, they emit biogas, which is captured and used to produce clean energy.

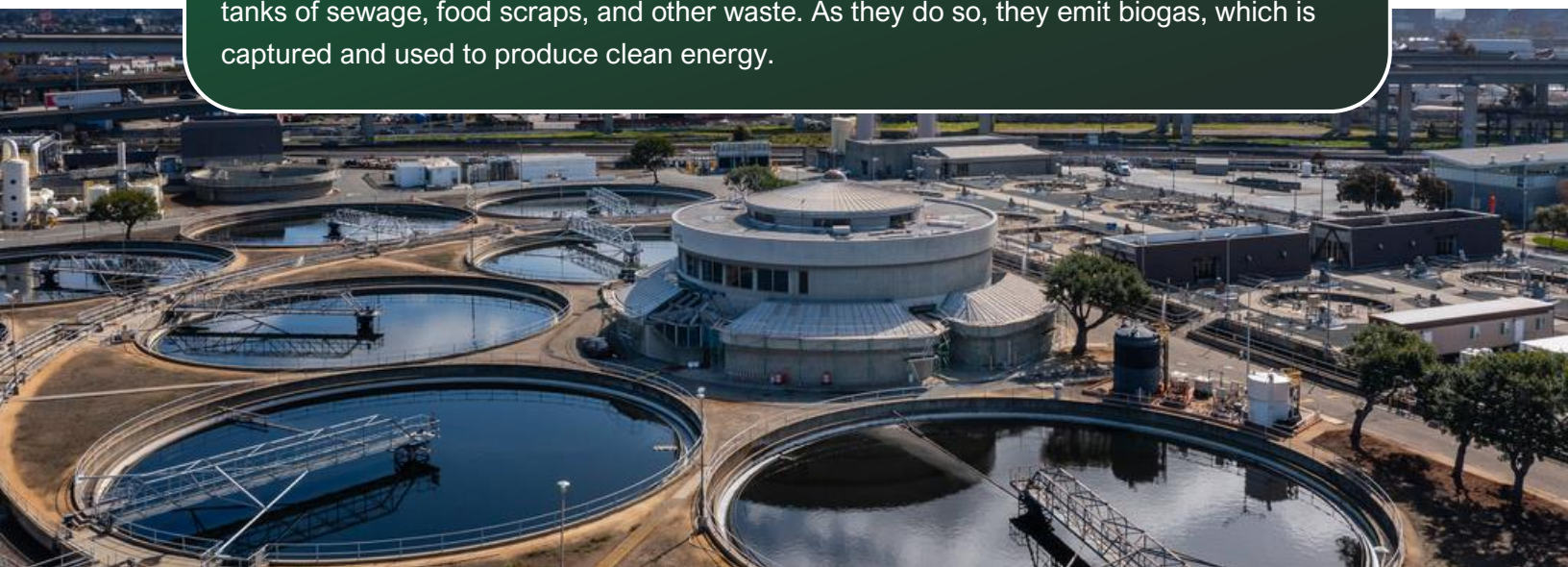


Photo by EBMUD

<sup>16</sup> East Bay Municipal Utility District. (n.d.) *Recycling water and energy*.

## Process & Fugitive Emissions

Process and fugitive emissions are leaks and other unintentional releases of emissions. They typically occur during the extraction, transformation, and transportation of fossil fuels. City staff began estimating these in the 2020 GHG Inventory to more thoroughly account for in-territory emissions, and estimations are based on building natural gas consumption. In 2022, this sector contributed 452 MT CO<sub>2</sub>e, or 1.38% of in-territory emissions.



1.4% of emissions  
-7.0% from 2021

# MUNICIPAL EMISSIONS



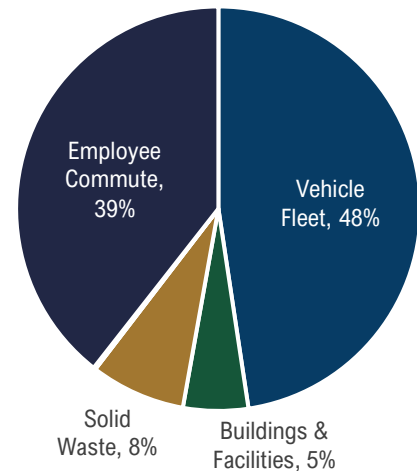
## In 2022, municipal activities generated 3.09% of citywide emissions.

The previous “Citywide Emissions” section covered residential, business, and government activities. This municipal inventory covers only government activities, and is therefore considered a subset of the citywide inventory.

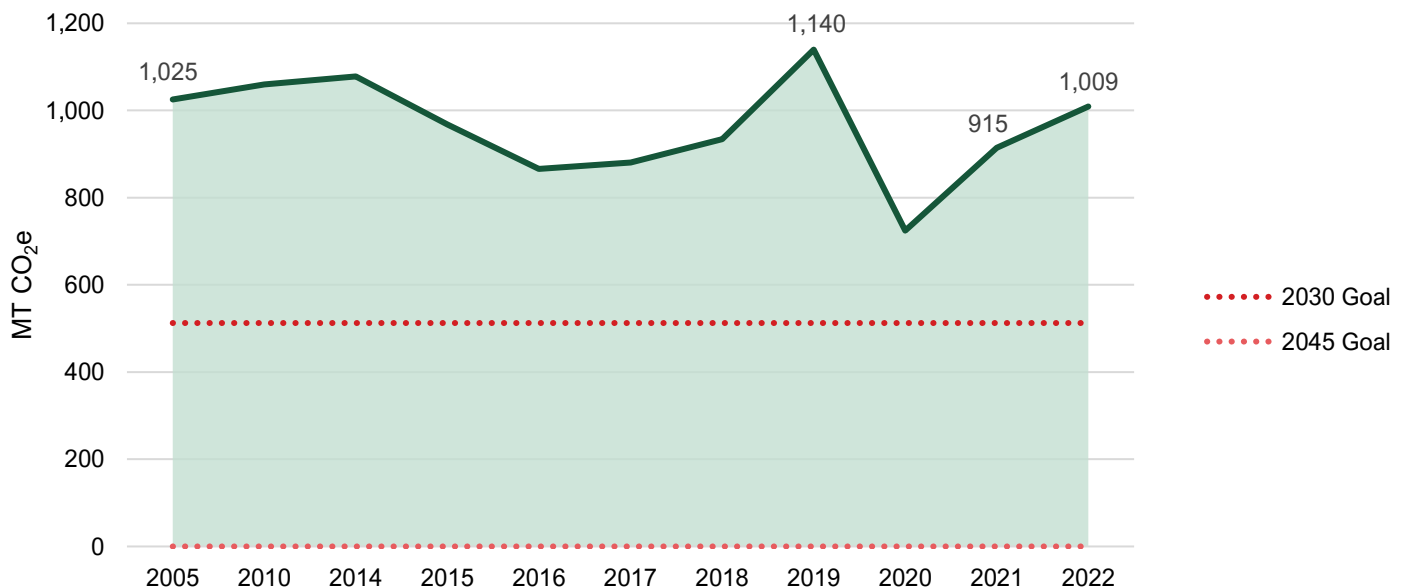
Municipal emissions amounted to 1,009 MT CO<sub>2</sub>e.

Figure 5 demonstrates that in 2022 emissions increased 10.4% from 2021. However, this increase is mainly because staff added greater detail to the methodology.

Most municipal emissions came from transportation. Together, employee commutes and City fleet vehicles produced 87.0% of this municipal inventory, as shown in Figure 4.



**Figure 4. 2022 Municipal GHG Emissions by Sector**



**Figure 5. 2005, 2010, and 2014 – 2022 Annual Municipal GHG Emissions**

The following sections provide more detail about each sector.

## Municipal Building Energy

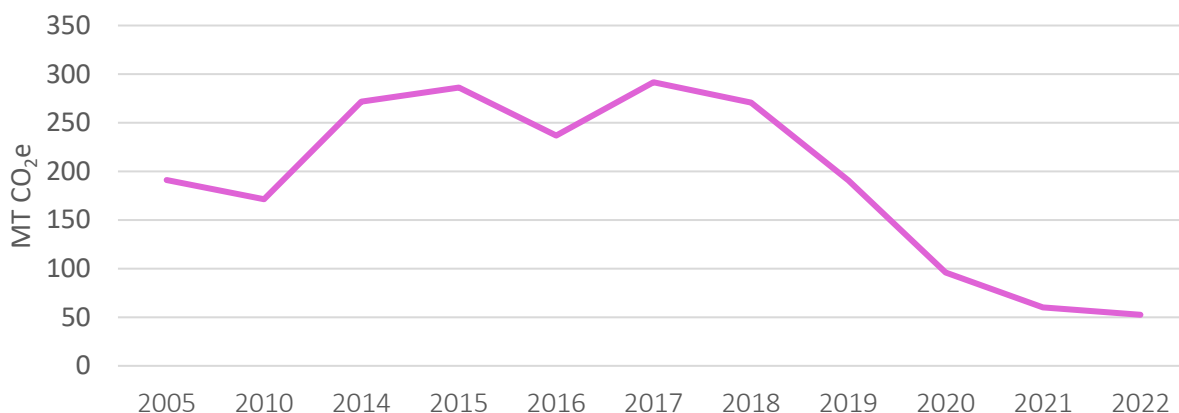
With the City's enrollment in Ava's 100% renewable energy service in 2019, electricity for municipal buildings, streetlights, and sprinklers produces zero emissions.



5.2% of City emissions  
-12% from 2021

**Therefore, municipal building energy emissions come entirely from gas appliances.** Since 2019, these emissions have fallen due to a combination of remote work, energy efficiency, and electrification measures. For example, in 2022, the City replaced all its remaining gas water heaters with electric heat pumps.

Altogether, municipal building emissions have drastically fallen over time, as shown in Figure 6. In 2022, building energy contributed only 53 MT CO<sub>2</sub>e, or 5.20% of municipal emissions.



**Figure 6. 2005, 2010, and 2014 – 2022 Annual Municipal Building Energy GHG Emissions**

## Municipal Vehicle Fleet

The City fleet consists of vehicles driven by the Police, Fire, Recreation, and Public Works Departments. It also includes vehicles driven by the City's contracted waste hauler — Republic Services — for waste collection services. Emissions were calculated based on each vehicle's estimated fuel efficiency and miles travelled.



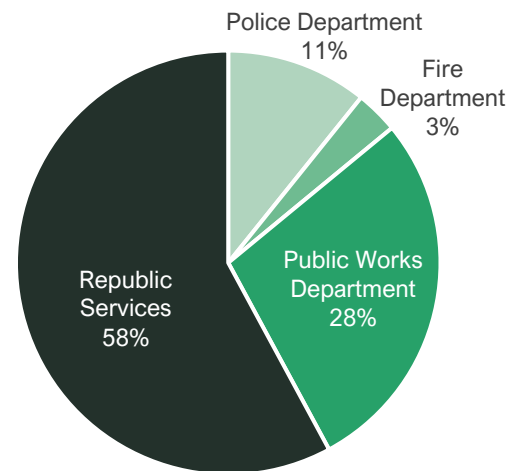
48% of City emissions  
-6.8% from 2021

**In 2022, the fleet accounted for 47.6% of municipal emissions, making it the largest contributor.** Figure 7 highlights that most fleet emissions came from the Public Works Department and from Republic Services' waste collection vehicles.

For this sector, comparing emissions year-by-year is difficult because methodology has changed often. For example, in 2021, staff began including emissions from Republic Services' waste collection service vehicles to create a more comprehensive picture.

For this 2022 inventory, staff chose to no longer include emissions from contractors, with the exception being Republic Services. Other contractors' data had low certainty or availability, impeding data reliability from year to year.

Additionally, precise data on 2022 fleet mileage was unavailable. As a result, these calculations are estimated from cumulative travel from both 2022 and 2023.



**Figure 7. 2022 Fleet GHG Emissions by Source**

## Municipal Employee Commutes

Every year, staff conduct a survey in which City employees self-report commute information.

According to the 2022 survey, employee commutes contributed 40.7% of municipal emissions. High commute emissions have a few potential causes: lack of convenient public transit; lack of remote working activity; and high local costs of living, causing employees to live farther away.

Notably, 10 out of the 56 survey respondents (18%) reported driving electric or hybrid vehicles.

It is also difficult to compare emissions year-by-year for this sector. Because data is self-reported, past inventories did not capture emissions from employees who did not report their commute methods and likely caused significant underestimates. For example, in 2022, the City had a total of 242 part-time and full-time employees, but only 56 (23%) completed the survey.

To address this, in the 2022 inventory, staff estimated emissions for unreported commutes by extrapolating an average emissions output and multiplying it by the number of part-time and full-time employees at the end of 2022. As a result, emissions for 2022 appear to have increased significantly from 2021, but, in fact, the results simply present a more comprehensive picture of commute related emissions than past inventories.



39% of City emissions  
+46% from 2021

## Solid Waste Facilities

This sector covers landfilled waste collected from public facilities.



7.6% of City emissions  
+18% from 2021

In 2022, municipal solid waste generated an estimated 77 MT CO<sub>2</sub>e, or 4.60% of municipal emissions. This is 18% higher than in 2021, but the increase is due to a change in methodology. This year, staff began accounting for landfilled organic waste types that were not previously accounted for.

When comparing emissions based on the previous methodology, 2022 emissions may have decreased from 2021. In 2021, the City began deploying three-series bins (recycling, compost and trash) in almost every office space, and in high-traffic areas in the Civic Center of Piedmont. This has likely helped divert materials from the landfill.

## Process & Fugitive Emissions

To reiterate, process and fugitive emissions are leaks and other unintentional releases of emissions. City staff began estimating these emissions in the 2020 GHG Inventory, to more thoroughly account for in-territory emissions.

In 2022, municipal process and fugitive emissions are negligible, contributing only about 2 MT CO<sub>2</sub>e.

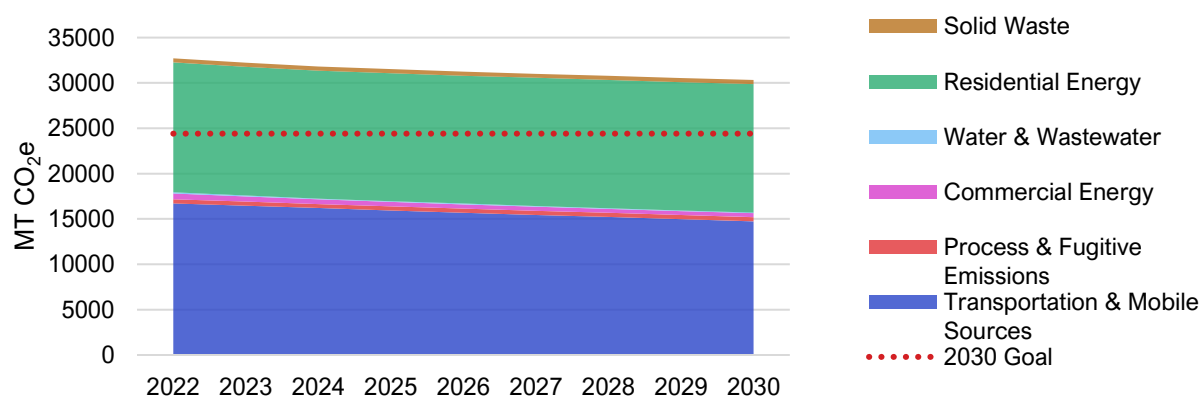
# CONCLUSIONS & RECOMMENDATIONS



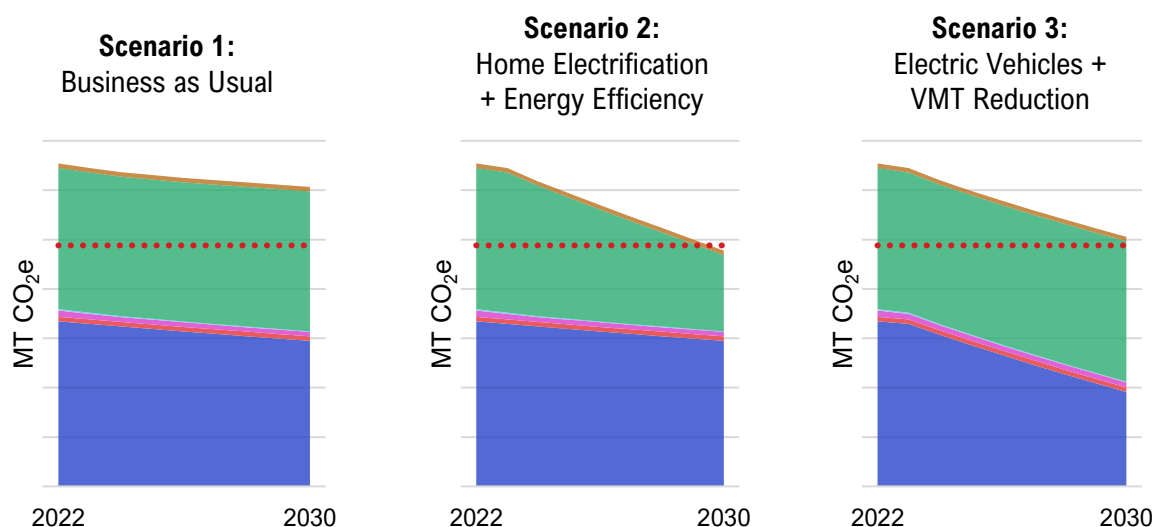
This year, ICLEI staff assisted with creating a “Business-as-Usual Forecast” for the years 2022 through 2030. This forecast projects future emissions based on current emissions and patterns.

**According to the Business-as-Usual Forecast, Piedmont is not on track to meet the 2030 emissions reduction goal.** Rather, the City will have an estimated excess of over 5,000 MT CO<sub>2</sub>e, as shown in Figure 8.

To help tackle this gap, ICLEI staff also analyzed the potential emissions impacts of various “High Impact Actions.” This analysis identified two pathways that would bring the City back on track to meet its goals: (1) pursuing home electrification and energy efficiency, and (2) increasing EV adoption while reducing vehicle mileage. Figure 9 compares the Business-as-Usual Forecast to the projections for these alternative pathways.



**Figure 8. Piedmont's Annual GHG Emissions Business-as-Usual Forecast by Sector**



**Figure 9. Piedmont's Annual GHG Emissions Business-as-Usual Forecast versus Action Scenarios**

The High Impact Action scenarios rely on a few assumptions. For example, the “Home Electrification and Energy Efficiency” Scenario assumes that 5% of existing housing units would receive efficiency retrofits every year, and that 6% of existing housing units would be electrified every year. Meanwhile, the “Electric Vehicles and VMT Reduction” Scenario assumes that electric vehicles would cover 30% of Piedmont’s VMT by 2030.

The City has demonstrated climate leadership by hiring a Sustainability Program Manager, purchasing 100% renewable energy, pioneering reach codes, and more. Residents have also demonstrated initiative through high EV purchasing rates, high waste diversion rates, and support of City sustainability programs.

Still, in-territory emissions increased in 2022. Many sectors experienced decreasing emissions, yet these were offset by increases from transportation, electricity, and solid waste.

**Piedmont’s climate goals require further intervention to building energy and transportation, which together produced 96.8% of citywide emissions.**

Although education and outreach efforts are important and should be continued, financial resources and regulatory mechanisms from local, state, and federal governments are also necessary. Efforts must also address historical harms and structural inequities that have been the root causes of the climate crisis. Moving forward, a key consideration can be “**targeted universalism**,” a framework that centers people’s unique needs to fulfill universal goals.<sup>17</sup>

## The City can reduce citywide GHG emissions by:



encouraging green mobility methods such as EVs, e-bikes, public transit, biking, and walking



improving streets, sidewalks, and bike infrastructure for bike and pedestrian safety



expanding home electrification programs



continuing to share relevant financing, rebate, and incentive resources with residents

<sup>17</sup> UC Berkeley Othering & Belonging Institute. (n.d.). *Targeted universalism*.

While municipal emissions account for just 3.09% of Piedmont’s in-territory emissions, City systems can continue to be improved and provide model examples. Transportation continues to be the largest municipal emissions contributor; together, the City fleet and employee commutes generated 87.0% of municipal emissions.

### The City can reduce municipal emissions by:



transitioning gas- and diesel-fueled fleet vehicles to EVs, with charging stations made available for City vehicles



improving accessibility for active transportation methods such as biking and walking



incentivizing zero-carbon commuting options (for example, providing showers for employees biking to work, access to discounted or free EV charging)

## ADDITIONAL NOTES

### Further Resources

For information about greenhouse gas inventory protocols, visit [www.ghgprotocol.org](http://www.ghgprotocol.org). For more information about City partners' sustainability efforts, visit these websites:

Ava Community Energy	<a href="http://www.avaenergy.org">www.avaenergy.org</a>
Republic Services	<a href="http://www.republicservices.com/sustainability">www.republicservices.com/sustainability</a>
East Bay Municipal District	<a href="http://www.ebmud.com/about-us/sustainability">www.ebmud.com/about-us/sustainability</a>

### Changes to Previous Inventories

Readers may notice that some numbers here — such as those in Figure 1 — are slightly different from those in previous reports. Staff had recalculated parts of previous inventories.

No new data was collected for previous inventories. Rather, the focus was pulling existing data that most accurately represented methodology, to create a more reliable comparison of GHG emissions over time. Staff made the following changes:

**For inventories from the years 2014-2018**, staff found and resolved discrepancies in records. In most cases, this meant increases in reported emissions. For example, the 2018 inventory had reported zero potable water emissions, which is inconsistent with methodology all other years. Staff amended this by adding 147 MT CO<sub>2</sub>e of estimated potable water emissions for 2018.

**For inventories from the years 2019-2021**, certain municipal records were added to citywide inventories (formerly called “community inventories”). According to inventory protocol, a local government is part of the community it represents, and its emissions should therefore be included in community inventories when possible.<sup>18</sup> However, for the past three inventories, municipal and community emissions were mistakenly considered separate. Consequently, methodology became inconsistent over time.

**For all inventories**, when possible, calculations were refined to more precise decimal points. This had a small impact; total emissions for each inventory changed by less than five MT CO<sub>2</sub>e.

<sup>18</sup> World Resources Institute, C40 Cities Climate Leadership Group, & ICLEI. (2021). *Global protocol for community-scale greenhouse gas emission inventories*.

## Exhibit B: Climate Action Plan 2.0 Implementation Progress Update

The Climate Action Plan (CAP) 2.0, adopted in 2018, outlines a suite of measures and actions that work toward reaching the Piedmont's updated climate action goals to halve 2005 greenhouse gas emission (GHG) levels by 2030, and achieve carbon neutrality no later than 2045.

Table 1 outlines the implementation status of each of the CAP 2.0's measures and actions, with a focus on updates over the past year, FY 23/24. The tables only include status updates on CAP 2.0 objectives where City departments are the lead actor and where progress has been made on at least one measure or action.

### FY 23/24 CAP 2.0 Implementation Highlights

In recognition of the City's climate action, the Institute for Local Government awarded the City of Piedmont with the Vanguard Award in 2023, its highest honor through the Beacon Program. Every year only one city receives this award and recognizes Piedmont for leadership in citywide and government emissions reductions, climate action planning, and implementation of sustainability best practices.

The page "Climate Action Piedmont by the Numbers" provides a graphic spotlight of select actions taken to-date, by Piedmont residents and the City.

The list below also highlights several more CAP 2.0 implementation advancements but focuses specifically on achievements from FY 23/24. They are further detailed with their corresponding CAP 2.0 objectives in Table 1.

- In 2023, staff completed the Urban Forest Inventory & Resource Analysis Summary Report, which, among other things, quantifies the environmental benefits of Piedmont's trees.
- In 2023, five contracts were signed by homeowners through the Bay Area Sunshares solar photovoltaic (PV) discount program, making a total of 11 contracts signed to-date.
- In 2024, four Piedmont households were recognized with Sustainability Awards for their excellence in zero-carbon and water-wise home improvements. Their examples of leadership successes were captured and highlighted through City communications.
- In spring 2024, the Sustainability Division participated at the Arbor and Earth Day Celebration as well as a Piedmont Center of the Arts' event to provide education on topics such as reducing waste to landfill, electrification, clean water, and more.

- As of May 2024, efforts to improve and promote pedestrian safety included the completion of three additional bulb-outs at three intersections: Oakland/Jerome, Oakland/El Cerrito, and Nova/Magnolia .
- In 2024, the City's existing induction cooktop lending program was expanded through a partnership with Ava Community Energy, vastly increasing lending rates.

# Climate Action by the Numbers in Piedmont

As of May 2024, Piedmonters have...



## 951

total solar +  
battery  
projects



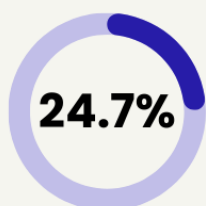
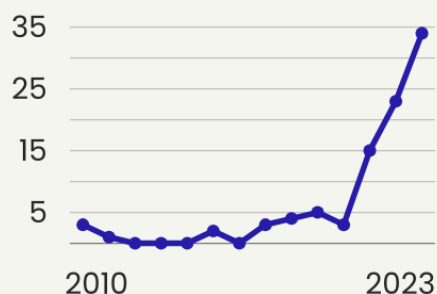
## 188

total  
EV charging  
projects



## 101

total heat  
pump  
projects



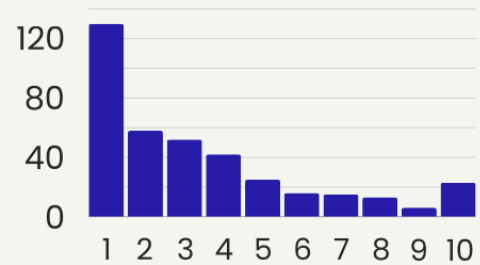
of total DMV  
registered vehicles  
are electric or hybrid

City of Piedmont Sustainability Division

## 350+

homes with completed Energy  
Score reports to-date

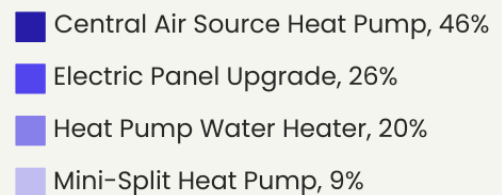
*Score Results (1 being the  
least energy efficient score):*



## \$36,950

in City-funded electrification  
rebates since January 2023

*35 rebates issued:*



Data Sources  
include to-  
date totals.

★ finalized City permits  
✦ California DMV  
✧ BayREN

**Table 1. FY 23/24 CAP 2.0 Implementation Progress Matrix**

Measures and Action by Sector and Objective	Lead Actor	Status
<b>Buildings and Energy</b>		
<b>Objective 1: Reduce Residential Building Energy Use</b>		
<b>Measure: 1.1 Disclose building energy consumption</b>		
Develop a single-family and/or multi-family residential unit energy assessment ordinance requiring disclosure at the time of sale, major remodel, rental, or other trigger point.	Planning & Building	<p><b>Complete.</b></p> <p>Council adopted Resolution No.55-2020 and <a href="#">Ordinance 751 N.S</a> establishes a Home Energy Assessment Policy for home projects which require design review permits and which may have an energy impact as well as during the sale or transfer of a property in Piedmont.</p> <p>According to data provided by BayREN, as of January 2024, 389 Piedmont homes had completed a Home Energy Score report.</p>
Partner with home energy audit providers to develop public outreach and community engagement programs on residential energy assessment opportunities and energy efficiency retrofits, with a focus on post audit follow-through.	Planning & Building	<p><b>Ongoing.</b></p> <p>City staff continues to work with certified home energy auditors as well as StopWaste and BayREN staff to conduct public outreach on home energy assessments.</p>
Increase knowledge of and encourage residents to use PGE's "My Energy" online tool to compare and understand energy and natural gas use.	Planning & Building	<p><b>Complete.</b></p>
<b>Measure: 1.2 Reduce electricity and natural gas consumption</b>		
Encourage utilities to develop and implement demand-side management programs.	Planning & Building	<p><b>Ongoing.</b></p> <p>City staff continue to work with utilities directly and through StopWaste to promote the development of and participate in delivering demand-side management programs.</p>

Promote and incentivize residential energy conservation and efficiency retrofits (i.e. insulation, energy-efficient windows, etc.) for existing buildings through competitions, case studies, rebates, and educational/community engagement events on statewide code changes, financing options, and the benefits of GHG reduction methods.	Planning & Building	<p><b>Ongoing.</b></p> <p>In 2024, four Piedmont households were recognized with Sustainability Awards, as part of the annual Planning and Building Design Awards. Each awardee demonstrated a local example of excellence in sustainable construction and design, reducing their homes' GHG emissions, water consumption, and more. It is anticipated that further action on this measure will be taken through the development and implementation of the upcoming Existing Building Electrification Strategy.</p>
At point of replacement, consider requiring the installation of energy conserving appliances and fixtures, such as on-demand tank-less water heaters, Energy Star appliances, and LED lightbulbs.	Planning & Building	<p><b>Action Needed.</b></p> <p>The City's Reach Codes (<a href="#">Ordinance 766 N.S.</a>) encourage the installation of energy efficiency measures during major renovation projects valued at ≥\$30,000. The City does not currently prevent the installation, nor require the removal, of gas infrastructure.</p>
Promote Property Assessed Clean Energy (PACE) financing and other energy improvement financing programs.	Planning & Building	<p><b>Ongoing.</b></p> <p>Information on PACE financing and other energy improvement financing programs are listed on the City's website.</p>
Consider following the State's goal of having all new residential construction be Zero Net Energy (ZNE).	Planning & Building	<p><b>Ongoing.</b></p> <p>The state's definition of a ZNE building is an energy-efficient building where the actual annual consumed energy is less than or equal to the on-site renewable generated energy. As of the 2022 California Building Code, solar photovoltaics (PV) are required for new construction including new detached ADU's. The city has not adopted further measures to require ZNE.</p>
Investigate developing an online, GHG reduction tracking platform for Piedmont residents to track their actions that may affect their carbon footprint and to participate in community-wide GHG reduction challenges.	Planning & Building	<p><b>Complete.</b></p> <p>In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019.</p>
Provide case studies/awards/highlights for property owners who set good sustainability examples (i.e. solar, LEED, drought-tolerant landscape, etc.).	Planning & Building	<p><b>Ongoing.</b></p> <p>In 2024, four Piedmont households were recognized with Sustainability Awards, as part of the annual Planning and Building Design Awards. Each awardee demonstrated a local example of excellence in sustainable construction and design, reducing their homes' GHG emissions, water consumption, and more.</p>

Measure: 1.3 Switch from natural gas to electric appliances, paired with renewable energy		
Educate residents on the options and incentives for electric appliances, such as furnaces, water heaters, dryers, stoves, and more, as well the importance of pairing electrification with the installation of renewable energy.	Planning & Building	<p><b>Ongoing.</b></p> <p>The City's website provides information on electric appliances, renewable energy, battery storage as well as links to relevant rebates and incentives. In 2024, these webpages are being redeveloped with the goal of making relevant information more accessible and useful for residents.</p> <p>The City also offers a free induction cooktop lending program. In 2024, the lending program was expanded through a partnership with Ava Community Energy.</p> <p>In spring 2024, City staff attended community events such as Arbor and Earth Day Celebration as well as an art event hosted by the Piedmont Center of the Arts to provide information to residents.</p>
Consider requiring electric appliances for new construction.	Residents & Building	<p><b>Complete.</b></p> <p>The City is no longer enforcing Reach Codes Section 8.02.070 and relevant elements of 8.02.020 as a result of the Ninth Circuit's decision in California Restaurant Association v. City of Berkeley. The City will continue requiring the installation of a circuit for electrical appliances (cooktop and clothes dryer) when remodeling those areas or for new construction, but will not require the removal of any existing gas circuits (nor prevent the installation of new gas circuits) for these areas.</p>
Provide incentives to convert existing residences from natural gas to electric appliances.	Planning & Building	<p><b>Complete.</b></p> <p>The City launched the Piedmont Electrification Rebate Program in January 2023 to encourage the adoption of heat pump hot water heaters, heat pump home heaters, and electric panel upgrades. As of May 2024, the City has issued 35 electrification rebates totaling almost \$37,000.</p>
Objective 2: Reduce commercial building energy use		
Objective 3: Increase renewable energy to 100% by 2030		
Measure: 3.1 Commit to being a renewable energy city		
Pass a resolution to meet 100% of community-wide electricity demand by renewable sources by 2030.	Planning & Building	<b>Action Needed.</b>

		In May 2018, City Council voted to auto-enroll all residential electricity accounts in Ava Community Energy's 100% Renewable service plan starting in November 2018. As of 2023, 88% of accounts are enrolled in their 100% Renewable service. No resolution has been passed to address community-wide electricity demand.
<b>Measure: 3.2 Install on-site renewable energy</b>		
Require all new construction or existing buildings that substantially increase their floor area to install on-site solar to off-set at least 75% of their electricity usage.	Planning & Building	<b>Ongoing.</b> The City's Reach Codes ( <a href="#">Ordinance 766 N.S.</a> ) includes requirements for the installation of solar photovoltaic systems at the point of roof expansion (>30%) or the addition of a new upper level. The City does not have a policy for offsetting a certain % of electricity use.
Target 100% of buildings with solar to install battery storage.	Planning & Building	<b>Ongoing.</b> The 2022 Building Code expands solar photovoltaic (PV) panels system requirement with onsite battery storage standards, thereby encouraging battery storage in new buildings.
Require buildings that undergo roof replacements to be "solar ready".	Planning & Building	<b>Ongoing.</b> The City's Reach Codes ( <a href="#">Ordinance 766 N.S.</a> ) includes requirements for the installation of solar photovoltaic systems at the point of roof expansion (>30%) or the addition of a new upper level.
Increase outreach and community engagement for solar installation programs and incentives, including community-based social marketing campaigns, public workshops, and partnering with utilities.	Planning & Building	<b>Ongoing.</b> Along with promoting renewable energy at public events and on the website, the City is a partner of Bay Area SunShares, an annual program where SunShares offers rooftop solar and battery storage installation at roughly 15% below market rates. In 2023, five additional contracts were signed through the program, making a total of 11 contracts signed to-date in Piedmont.
Develop a reach code to phase-out electric service panels below a 200-amp capacity at time of upgrade.	Planning & Building	<b>Complete.</b> The City's Reach Codes ( <a href="#">Ordinance 766 N.S.</a> ) includes requirements when upgrading an electric main panel to include capacity to accommodate future electrification of all appliances (including home heating and hot water heating). The City does not currently prevent the installation, nor require the removal, of gas infrastructure.

Measure: 3.3 Increase the amount of renewable energy delivered through the grid		
Encourage residents to choose Ava Community Energy as their electricity provider and support education and community engagement for residents throughout the transition to Ava.	Planning & Building	<p><b>Ongoing.</b></p> <p>Ava Community Energy's 100% Renewable service plan is currently the default option for Piedmont accounts. Staff partners with Ava to continue to educate and promote electricity options.</p>
Have 100% renewable be the default option for Piedmont residents through Ava Community Energy's with an opt-down option.	Planning & Building	<p><b>Complete.</b></p> <p>In May 2018, City Council voted to auto-enroll all residential electricity accounts in Ava Community Energy's 100% Renewable Energy service plan starting in November 2018. As of 2023, 88% of accounts are enrolled in their 100% Renewable service</p>
Objective 4: Partner with schools to reduce energy use		
Objective 5: Reduce local air pollution and high global warming potential gases		
Measure: 5.1 Decrease the impact of Piedmont's building stock on pollution and GHG emissions		
Prohibit wood-burning fireplaces in new development and encourage retrofitting existing wood-burning fireplaces with natural gas or electric alternatives.	Planning & Building	<p><b>Ongoing.</b></p> <p>The City is no longer enforcing Reach Codes Section 8.02.070 and relevant elements of 8.02.020 as a result of the Ninth Circuit's decision in California Restaurant Association v. City of Berkeley. The City does not currently prevent the installation, nor require the removal, of gas infrastructure.</p>
Require that new air conditioning and refrigeration units use refrigerants with low global warming potential (e.g. CO2 or ammonia instead of hydrofluorocarbons).	Planning & Building	<p><b>Ongoing.</b></p> <p>California is required to reduce hydrofluorocarbon emissions 40% below 2013 levels by 2030 under Senate Bill 1383 (Health &amp; Saf. Code § 39730.5). Staff will continue to monitor relevant federal and state laws.</p>
Promote and consider requiring the installation of exterior electrical outlets to promote the use of electric maintenance equipment.	Planning & Building	<p><b>Action needed.</b></p> <p>In 2021, CA Assembly Bill 1346 was signed into law, to achieve 100% zero emissions from off-road equipment (primarily lawn and garden equipment) in California by 2035, where feasible and cost-effective. Staff are conducting ongoing outreach on the City's leaf blower regulations.</p>

**Objective 6: Investigate infrastructure upgrades and new technologies**
**Measure: 6.1 Explore deep decarbonization infrastructure changes**

Assess the potential for district heating in Piedmont, including a density assessment to evaluate potential costs, mapping the City's heating and cooling demand (including building stock and consumption data).	Planning & Building	<b>Action needed.</b>
Explore micro-grids as a carbon reduction and resiliency strategy.	Planning & Building & Public Works	<b>Ongoing.</b> Staff continue to explore funding and partnership opportunities for microgrid deployment in Piedmont. In November 2022, City Council approved Resolution No. 71-2022, authorizing the City Administrator to pursue deployment of solar and battery energy storage at critical municipal facilities in partnership with Ava Community Energy.
Reduce the need for new natural gas lines through phasing out natural gas appliances in new construction and existing building replacements.	Planning & Building	<b>Ongoing.</b> The upcoming Existing Building Electrification Strategy will explore tools to promote electrification uptake.

Transportation		
Objective 1: Increase number of trips made by biking and walking		
Measure 1.1: Encourage walking and biking safety		
Install sidewalk railings on the Oakland Avenue bridge.	Public Works	<p><b>Complete.</b></p> <p>Safety railings along both sidewalks on the Oakland Avenue bridge were installed in 2020.</p>
Enhance street crossing safety through crosswalks, flashing pedestrian lights, and signage.	Public Works	<p><b>Ongoing.</b></p> <p>In December 2021, the Council adopted the Piedmont Safer Streets plan which identifies 21 locations, including a subset of the highest-priority locations, that need enhanced street crossings. Along with safety improvements completed at the Mesa/Moraga intersection in 2023, three additional bulb-outs were installed at three intersections: Oakland/Jerome, Oakland/El Cerrito, and Nova/Magnolia as of May 2024.</p>
Provide safety education led by the Police or Public Works Department (traffic safety messages on city buildings and online).	Public Works	<p><b>Ongoing.</b></p> <p>In August of 2018, Public Works, the Police Department, and the City Engineer formed the Traffic Safety Team. It meets once a month to answer residents' inquiries and disseminate traffic safety information.</p> <p>In May 2024, the Police Department attended Bike to Wherever Day disseminating bike safety information at the Sustainability Division's Energizer Station.</p>
Consider transitioning streets to one-way traffic to add bike lanes in residential areas.	Public Works	<p><b>Action Needed.</b></p>
Implement traffic calming measures.	Public Works	<p><b>Ongoing.</b></p> <p>The City does not have a formal traffic calming program; instead, it considers residents' requests on a case-by-case basis. In 2020, the Council approved a pilot program for the installation of traffic-calming 'speed cushions' on Scenic and Greenbank Avenue. As of May 2024, traffic calming measures have also been</p>

		completed at the intersections of Mesa/Moraga, Oakland/Jerome, Oakland/El Cerrito, and Nova/Magnolia as of May 2024.
<b>Measure 1.2: Provide access to bicycles and bicycle paths</b>		
Pursue the installation of a Bay Area Bike Share station in the Grand Ave commercial district.	Public Works	<b>Ongoing.</b> Staff is actively searching for grants and other funding opportunities as well as works with Ava Community Energy to determine the feasibility of installing a Bike Share station in the City.
Enhance bike infrastructure along bikeway network designated in Piedmont's Pedestrian and Bicycle Master Plan (PBMP).	Public Works	<b>Ongoing.</b> Based on the Safer Streets Plan, the City has completed or is in the process of 8 crossing improvement projects at intersections, 8 bikeways on street segment projects, 9 pedestrian curb ramps at intersections, and 15 street resurfacing projects.
Install additional bike parking racks at key destinations.	Public Works	<b>Ongoing.</b> With the assistance of BAAQMD, the City installed bike racks at key locations in the Civic Center where events are held.
Implement Highland road diet.	Public Works	<b>Action needed.</b> The Safer Streets Plan recommends a detailed traffic study of the Highland Avenue corridor, with 3 objectives: road diet, reconfiguration of the "bend", and alleviating school-related congestion.
Implement Grand Avenue road diet.	Public Works	<b>Complete.</b> In 2016, the City of Oakland implemented a road diet on Grand Avenue between Elwood Avenue and the Piedmont city limit, near Jean Street/Wildwood Avenue. The project replaced two travel lanes with bike lanes and a center turn lane.
Coordinate with Oakland on the planning, design, funding and creation of inter-city bikeways, particularly on Grand, Moraga and Wildwood Avenues and on Park Boulevard and the creation of a map that shows these networks.	Public Works	<b>Ongoing.</b> In May 2023, two new class 2 bike lanes were added in the uphill direction on Moraga Ave. These bike lanes add to the regional bikeway network. The City of Piedmont has been communicating with Oakland staff to contribute to the regional bikeway map.
Introduce traffic signal controls that prioritize bicycles.	Public Works	<b>Action needed.</b>

Provide bicycle parking at city sponsored events.	Public Works	<b>Complete.</b> With the assistance of BAAQMD, the City installed bike racks at key locations in the Civic Center where events are held.
Implement physical bike protection, separation, or warning infrastructure like Botts' dots, concrete dome curb extensions, or pop-ups.	Public Works	<b>Ongoing.</b> Based on the Safer Streets Plan, since 2014, the City completed or is in the process of 8 bikeways on street segment projects.
Facilitate Bike to Work Day and other bike promotion and educational/community engagement events.	Public Works	<b>Complete.</b> In 2024, the City promoted Bike to Wherever Day events through various communication platforms and hosted an Energizer Station in the Civic Center.
<b>Objective 2: Reduce transportation emissions from schools</b>		
<b>Objective 3: Increase residents' use of public transit</b>		
<b>Measure 3.1: Increase use of busses and BART</b>		
Incentivize public transit use through community-based social marketing campaigns.	Planning & Building & Public Works	<b>Ongoing.</b> Public transportation information is available on the City's website. Additional work is needed to incentivize public transit use among all community members.
Work with AC transit to improve fuel efficiency and alternative fuel buses.	Planning & Building & Public Works	<b>Ongoing.</b> Staff support AC Transit's transition to a zero-emission bus fleet. By the end of 2023, 10% of AC Transit's fleet will be zero emission clean air buses. By 2040, 100% of AC Transit's fleet will be zero emission buses.
Consult with AC transit to ensure Piedmont has bus stops that provide shade, weather protection, seating, lighting, and route information.	Planning & Building & Public Works	<b>Ongoing.</b> Staff work with AC Transit to enhance ridership in post-pandemic times. Currently, more than half of Piedmont bus stops have benches and shading.
Consider investing in an intra-city shuttle to provide convenient transit within the city and to key locations like schools, casual carpool sites, and BART.	Planning & Building & Public Works	<b>Action needed.</b> The Council may direct staff to pursue a study to determine the feasibility of an intra-city shuttle.
<b>Objective 4: Support the adoption of ZEVs and the growth of EV charging stations</b>		
<b>Measure 4.1: Support the growth of EV charging infrastructure</b>		

Install EV chargers in the Civic Center area, Grand Avenue commercial zone, and other commonly traveled locations in Piedmont.	Public Works	<b>Ongoing.</b> Staff are working with Ava Community Energy to complete the installation of 4 publicly accessible EV Level 3/DC fast charging stations on Magnolia Avenue. The chargers are anticipated to be complete by March 2025. Staff is actively searching for grants and other funding opportunities to deploy additional chargers.
Develop an ordinance to require EV charger pre-wiring in any garage remodel.	Planning & Building	<b>Complete.</b> Chapter 8 of City Code requires garage remodels that meet specific conditions to comply with the 2022 CalGreen Code that requires installation of an EV capable raceway to accommodate a dedicated 208/240-volt branch circuit
Require pre-wiring for EV charging in new construction.	Planning & Building	<b>Complete.</b> The 2022 CalGreen Code requires new construction to include the installation of an EV capable raceway to accommodate a dedicated 208/240-volt branch circuit.
<b>Objective 5: Reduce miles traveled in personal gasoline vehicles</b>		
<b>Objective 6: Increase mixed-use development</b>		

## Solid Waste

### Objective 1: Reduce waste going to the landfill

#### Measure 1.1: Establish a waste diversion target for 2030

Adopt a resolution to achieve 85% waste reduction and diversion by 2030.	Public Works	<b>Action needed.</b>  The City currently has a diversion rate of 75%.
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#### Measure 1.2: Provide education on ways to reduce consumption

Encourage composting within the City through education and community engagement about proper green waste sorting, backyard composting, and providing compostable bags and countertop compost bins.	Public Works	<b>Ongoing.</b>  Per SB 1383 regulations, all residents in California are required to subscribe to an organics collection service. Information about composting is distributed through Republic Services' newsletters and articles in local media. Composting information is also available on the City's website. Staff regularly give away compostable bags to residents at the City's Planning & Building Counter.
Promote educational programs and community engagement and outreach on reducing food waste, recycling, and landfill diversion.	Public Works	<b>Ongoing.</b>  City staff regularly supports waste management and diversion efforts at the Harvest Festival and Turkey Trot as well as include materials at tabling events. Information on these topics is also available on the City's website.
Promote "fix-it" clinics to educate residents on how to repair items instead of throwing them away.	Public Works	<b>Ongoing.</b>  Staff have distributed information about "fix-it" opportunities through local media articles.
Provide education and community engagement on items accepted in bulk-pick up program to ensure proper disposal of appliances and other bulky refuse.	Public Works	<b>Ongoing.</b>  Information about bulky items is distributed through Republic Services' quarterly newsletters and articles in local media. Information can also be found on the City's website and on StopWaste's Re:Source tool.
Provide education and community engagement on where to drop-off specialized waste, such as paints, fats, grease, oils, and other items that cannot go in curbside or bulk pick-up.	Public Works	<b>Ongoing.</b>  Information about bulky items is distributed through Republic Services' quarterly newsletters and articles in local media. Information can also be found on the City's website and on StopWaste's Re:Source tool.

Investigate developing an online, GHG reduction tracking platform for Piedmont residents to track their actions related to waste that may affect their carbon footprint and to participate in community wide GHG reduction challenges.	Public Works	<b>Complete.</b>  In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019.
Provide updated detailed information about which specific materials are currently being recycled by Piedmont's waste hauler, rather than shipped elsewhere for disposal. Educate residents on the fact that recycling is a market-based program, and that if there is no market for a material, it will not be recycled.	Public Works	<b>Ongoing.</b>  Information about the disposal locations of Piedmont's solid waste, recycling, and organics are provided in Republic Services' annual reports and on their Piedmont specific webpage.
Educate residents about the different types of plastic and the limitations of plastic recycling. Create awareness that putting a plastic item in the blue recycling bin does not mean it will actually be recycled. Encourage the decreased consumption of plastics and plastic packaging.	Public Works	<b>Action needed.</b>
<b>Measure 1.3: Reduce construction and demolition waste</b>		
Promote alternatives to traditional building demolition such as relocation, deconstruction, and salvage.	Planning & Building	<b>Action needed.</b>
Provide incentives to builders for using deconstruction instead of demolition.	Planning & Building	<b>Action needed.</b>
Partner with nearby cities to provide contractor training on deconstruction as an alternative to demolition.	Planning & Building	<b>Action needed.</b>
<b>Objective 2: Encourage sustainable practices of the City's waste hauler</b>		

## Consumption

### Objective 1: Reduce emissions associated with food consumption and food waste

#### Measure 1.1: Provide education on consumption related GHG emissions

Increase awareness of consumption-based emissions through the Climate Action Plan.	Planning & Building	<b>Ongoing.</b> In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019. The City also promotes StopWaste resources on this topic on its website, through local media, and at tabling events.
Promote education on personal and household carbon footprints.	Planning & Building	<b>Ongoing.</b> In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019. The City also promotes StopWaste resources on this topic on its website, through local media, and at tabling events.
Host a decarbonization workshop to promote awareness of the climate change impacts of consumption.	Planning & Building	<b>Ongoing.</b> City staff organized a community event in April 2019 to raise awareness on more sustainable consumption habits, goods, and services. In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019.

#### Measure 1.2: Support other agencies' initiatives for emissions transparency and accountability

Encourage BAAQMD's efforts to create and promote consumption-based emissions inventories.	Planning & Building	<b>Ongoing.</b>
Support State legislation that requires producers to be involved in end-of-life product management.	Planning & Building	<b>Ongoing.</b> The City regularly meets with StopWaste to monitor progress on SB 54 draft regulations, which will, in part, shift the plastic pollution burden from consumers to producers.
Support a regional plastic water bottle ban.	Planning & Building	<b>Action needed.</b>
Support product labeling that includes information about GHG emissions associated with the lifecycle of products.	Planning & Building	<b>Action needed.</b>

### Objective 2: Reduce emissions associated with food consumption and food waste

#### Measure 2.1: Reduce Food Waste

Educate residents on how to reduce waste of edible foods through proper food storage, meal planning, and purchasing of 'imperfect food'.	Planning & Building	<b>Ongoing.</b> The City also promotes StopWaste resources on this topic on its website, through local media, and at tabling events.
<b>Measure 2.2: Reduce carbon intensity of food consumption</b>		
Begin a community campaign to educate the public about food choice as part of a climate-friendly lifestyle.	Public Works	<b>Ongoing.</b> In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019. The City also promotes StopWaste resources on this topic on its website, through local media, and at tabling events.
Educate residents and businesses on low-carbon food options, such as minimally processed foods, fruits, grains and vegetables.	Public Works	<b>Ongoing.</b> In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019. The City also promotes StopWaste resources on this topic on its website, through local media, and at tabling events.
Educate residents on the benefits of collecting and recycling fats, oils, and grease from food products and use.	Public Works	<b>Ongoing.</b> In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019. The City also promotes StopWaste resources on this topic on its website, through local media, and at tabling events.
<b>Objective 3: Increase awareness of consumption related GHG emissions</b>		
<b>Measure 3.1: Provide education on consumption related GHG emissions</b>		
Increase awareness of consumption-based GHG emissions through the Climate Action Plan.	Planning & Building	<b>Ongoing.</b> In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019.
Promote education on personal and household carbon footprints.	Planning & Building	<b>Ongoing.</b> In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019.

Host a decarbonization workshop to promote awareness of the climate change impacts of consumption.	Planning & Building	<b>Ongoing.</b> City staff organized a community event in April 2019 to raise awareness on more sustainable consumption habits, goods, and services. In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019.
<b>Measure 3.2: Reduce emissions from the construction and destruction of buildings</b>		
Promote alternatives to traditional building demolition such as relocation, deconstruction, and salvage.	Planning & Building	<b>Action needed.</b>
Encourage the preservation of Piedmont's existing stock of small and historic homes and discourage the granting of variances for floor area ratio.	Planning & Building	<b>Action needed.</b>
Create "Climate-Friendly" purchasing suggestions on sustainable materials, energy efficient, appliances, and other building products and materials.	Planning & Building	<b>Action needed.</b>
<b>Objective 4: Reduce emissions from the consumption of goods and food within schools</b>		

## Water and Wastewater

### Objective 1: Reduce water use by 20%

#### Measure 1.1: Encourage residential and commercial users to participate in EBMUD's free water audit program

Partner with EBMUD and StopWaste to provide water conservation outreach and community engagement programs and encourage residential and commercial users to participate in free water efficiency audits.	Public Works	<b>Ongoing.</b> Information on water conservation can be found on the City's website. Staff regularly provide updates on the drought and water conservation at Park Commission meetings. Staff also share updates on water conservation opportunities in local media.
Promote rebates for water efficiency projects, including low-flow fixtures.	Public Works	<b>Ongoing.</b> Information on water conservation can be found on the City's website. Staff regularly provide updates on the drought and water conservation at Park Commission meetings. Staff also share updates on water conservation opportunities in local media.
Require a water efficiency audit at point of sale.	Planning & Building	<b>Action needed.</b>

#### Measure 1.2: Reduce residential water use

Adopt a residential retrofit program to encourage the installation of water conservation measures.	Planning & Building	<b>Action needed.</b>
Consider requiring the installation of water conserving fixtures at the point of sale or rental.	Planning & Building	<b>Action needed.</b>
Consider requiring pool covers in order to reduce evaporation.	Planning & Building	<b>Action needed.</b>
Investigate developing an online, GHG reduction tracking platform for Piedmont residents to track their actions related to water use that may affect their carbon footprint and to participate in community-wide GHG reduction challenges.	Planning & Building	<b>Complete.</b> In collaboration with Piedmont Connect, the City launched an interactive online platform, the Piedmont Climate Challenge, in fall 2019.

<b>Measure 1.3: Promote landscaping that minimizes water use</b>		
Encourage the replacement of high water use landscapes in residential and commercial uses.		<b>Ongoing.</b> Staff continues to promote the replacement of high-water use landscapes through City demonstration projects, and in outreach materials on the City's website.
Enforce and consider expanding the California Water Efficiency Landscape Ordinance (WELO).		<b>Ongoing.</b> While WELO is enforced, further action would be required to expand the ordinance.
<b>Measure 1.4: Reduce water use in schools</b>		
<b>Objective 2: Conserve and collect water</b>		
<b>Measure 2.1: Promote infrastructure improvements</b>		
Work with EBMUD to repair and maintain existing water lines to prevent leaks.	Public Works	<b>Ongoing.</b> Staff are evaluating and monitoring water use reports to determine priority sites for repairs and improvements.
<b>Measure 2.2: Encourage use of greywater and rainwater collection</b>		
Consider requiring greywater or rainwater collection systems in new construction.	Planning & Building	<b>Action needed.</b>
Create an outreach or community engagement program that encourages business and residents to construct greywater and rainwater collection systems that can be used for irrigation and non-potable uses.	Public Works	<b>Action needed.</b>

Municipal		
Objective 1: Reduce City GHG emissions		
Measure 1.1: Set a zero-carbon goal for the City government		
Pass a resolution committing Piedmont's municipal facilities and activities to zero-carbon by 2050 and develop interim milestones.	Planning & Building	Action needed.
Objective 2: Reduce emissions from City buildings and energy supply		
Measure 2.1: Reduce energy use in city buildings		
When remodeling or repairing City buildings, include opportunities for energy efficiency retrofits or green building certification.	Public Works	<p>Ongoing.</p> <p>The City has a Civic Green Building Ordinance that resides in Chapter 8 of the Piedmont Municipal Code. In 2022, the City secured grant funding to replace all remaining existing gas water heaters at City facilities with heat pump water heaters. The new Piedmont Community Pool has been designed as an all-electric facility and will be the City's first LEED Certified Building. Staff is actively searching for grants and other funding opportunities to make further improvements.</p>
Construct new City buildings to ZNE and green building certification standards.	Public Works	<p>Ongoing.</p> <p>The City has a Civic Green Building Ordinance that resides in Chapter 8 of the Piedmont Municipal Code. The new Piedmont Community Pool has been designed as an all-electric facility and will be the City's first LEED Certified Building. Staff is actively searching for grants and other funding opportunities to make further improvements.</p>
Increase the energy efficiency of lighting and appliances in City buildings as opportunities arise.	Public Works	<p>Ongoing.</p> <p>In 2022, the City replaced all remaining gas water heaters with electric heat pump water heaters. The City also already converted all cobra head streetlights to LEDs and, long term, will be converting the remaining decorative post top streetlights to LEDs. Staff is actively searching for grants and other funding opportunities to support these efforts.</p>
Switch from natural gas to electric appliances once the electricity supply nears 100% and the technology becomes affordable.	Public Works	<p>Ongoing.</p> <p>In May 2022, the City replaced all remaining gas water heaters with electric heat pump water heaters. The City also already converted all cobra head</p>

		streetlights to LEDs and will be converting the remaining decorative post top streetlights to LEDs. Staff is actively searching for grants and other funding opportunities.
Investigate strategies for reducing energy use at the City aquatic facilities.	Public Works	<p><b>Complete.</b></p> <p>In April 2022, an Energy Use Report developed for the new Piedmont Community Pool that determined it is feasible to electrify the entire facility with a combination of electric heat pumps, photovoltaic/thermal (PVT) panels, and integration with the clean electrical grid. In April 2022, Council directed staff to proceed with full electrification of the new facility and pursue additional funding and partnership opportunities to offset electrification costs. Staff is actively searching for grants and other funding opportunities.</p>
<b>Measure 2.2: Monitor Building Performance</b>		
Consider installing electronic building performance displays in all publicly accessible buildings.	Public Works	<b>Action needed.</b>
Conduct energy audits of all buildings every 10 years.	Public Works	<p><b>Complete.</b></p> <p>In 2023, the City staff worked with BayREN to complete a municipal energy portfolio audit of City facilities.</p>
<b>Measure 2.3: Increase the amount of renewable energy on-site and through the grid</b>		
Evaluate the potential for and install cost-effective renewable energy systems on City Properties.	Public Works	<p><b>Complete.</b></p> <p>In 2023, the City staff worked with BayREN to complete a municipal energy portfolio audit of City facilities. As of November 2022, the City Council approved a resolution authorizing the City Administrator to pursue widespread deployment of solar and battery energy storage at critical municipal facilities in partnership with Ava Community Energy .</p>
Commit to 100% renewable energy through Ava Community Energy.	Public Works	<p><b>Complete.</b></p> <p>In May 2018, City Council voted to auto-enroll all municipal electricity accounts in Ava Community Energy 100% Renewable service plan.</p>
When constructing new buildings or replacing and structurally upgrading roofs, build solar ready or include the installation of solar in the bid process.	Public Works	<p><b>Ongoing.</b></p> <p>In 2022, Council directed staff to proceed with full electrification of the new Piedmont Community Pool, which was designed to include</p>

		photovoltaic/thermal (PVT) panels. Additional opportunities will be explored as the City seeks to upgrade its facilities.
<b>Measure 2.4: Reduce emissions from high global warming potential gases</b>		
Enforce the ban on petroleum powered leaf blowers and maintenance equipment.	Public Works	<p><b>Ongoing.</b></p> <p>In 2021, CA Assembly Bill 1346 was signed into law, to achieve 100% zero emissions from off-road equipment (primarily lawn and garden equipment) in California by 2035, where feasible and cost-effective. Staff are conducting ongoing outreach on the City's leaf blower regulations.</p> <p>In 2016, City staff utilized BAAQMD funding to replace all municipal gas-powered blowers and hedgers with battery operated devices. The City's landscape maintenance contracts and yearly tree trimming contract prohibits the use of gas-powered blowers and requires contractors to use only battery or electric blowers.</p>
Replace high GWP refrigerant air conditioners and dispose of them properly.	Public Works	<p><b>Ongoing.</b></p> <p>In 2022, all gas-powered water heaters at City Hall were replaced with heat pumps in May 2022. Staff is actively searching for grants and other funding opportunities to install heat pumps at other City facilities.</p>
Continue to maintain Piedmont's urban forest and plant new trees where possible to sequester carbon emissions, improve air quality, and help reduce the heat island effect.	Public Works	<p><b>Ongoing.</b></p> <p>In 2023 staff completed the Urban Forest Inventory &amp; Resource Analysis Summary Report. The report includes, among other things, a full tree inventory as well as quantifies the health and environmental benefits provided by Piedmont's trees.</p>
<b>Objective 3: Reduce Municipal Transportation Emissions</b>		
<b>Measure 3.1: Reduce employee transportation emissions</b>		
Promote employee ride-shares, walking, biking, and public transportation as commuting alternatives.	Public Works	<p><b>Ongoing.</b></p> <p>In 2022, City staff reestablished the Bay Area Commuter Benefits Program. Staff also are seeking opportunities for additional clean commuter incentives.</p>
Provide a shower and changing area for City employees to facilitate biking to work.	Public Works	<b>Action needed.</b>

Install EV chargers accessible to City employees.	Public Works	<p><b>Ongoing.</b></p> <p>Staff are working with Ava Community Energy to complete the installation of 4 publicly accessible EV Level 3/DC fast charging stations on Magnolia Avenue that will be available for the public and staff to use. The chargers are anticipated to complete by March 2025.</p>
<b>Measure 3.2: Reduce municipal fleet emissions</b>		
Develop a fleet purchasing policy that prioritizes fuel efficiency and ZEVs.	Public Works	<p><b>Ongoing.</b></p> <p>In 2022, Sustainability Division staff worked with Ava Community Energy to conduct a fleet electrification assessment. The Council may direct staff to develop such a policy now that the assessment has been completed.</p>
<b>Objective 4: Reduce Solid Waste Generated by City Services</b>		
<b>Measure 4.1: Reduce solid waste generated by the city or city-related events</b>		
Implement a zero-waste City Events, including compostable dinnerware, water refilling stations, and banning plastic water bottles.	Public Works	<p><b>Ongoing.</b></p> <p>Staff follow guidelines and procedures set forth by the Green Event Guide and Sustainable Procurement Policy to achieve maximum waste diversion, including the use of reusable foodware.</p>
Institute paperless practices for City Council, Commissions, and community meetings.	Public Works	<p><b>Ongoing.</b></p> <p>Staff follow guidelines and procedures set forth by the Sustainable Procurement Policy to reduce paper use.</p>
Enforce and expand the City's environmental purchasing policy.	Public Works	<p><b>Complete.</b></p> <p>In December 2021, the Council adopted updates to the City's Sustainable Procurement Policy, which expands on purchasing policies since the first policy was adopted in 2011.</p>
Conduct a solid waste audit for City facilities.	Public Works	<p><b>Complete.</b></p> <p>With the assistance of Republic Services, a solid waste audit was completed at City facilities in 2022.</p>
Consider meat-free options for City events.	Public Works	<p><b>Ongoing.</b></p> <p>Staff follow guidelines and procedures set forth by the Sustainable Procurement Policy to minimize emissions from food and food waste.</p>

Educate City employees and the public on recycling and composting at city events and facilities.	Public Works	<b>Complete.</b> In 2022, Sustainability staff provided trainings to City purchasers on the City's recently updated Sustainable Procurement Policy.
Replace paper towels with electric hand dryers in City bathrooms .	Public Works	<b>Ongoing.</b> Electric hand dryers have been installed in Community Hall and staff are evaluating sites for additional deployment.
<b>Objective 5: Reduce City Water Use</b>		
<b>Measure 5.1: Reduce water use in City buildings</b>		
Install water efficient fixtures in City buildings, including motion sensor faucets in bathrooms.	Public Works	<b>Ongoing.</b> Staff are evaluating sites in City facilities to install water efficient fixtures.
Install water efficient appliances, such as dishwashers and hot water heaters.	Public Works	<b>Ongoing.</b> Staff are evaluating sites in City facilities to install water efficient appliances at time of replacement. In 2022, all gas-powered water heaters at City Hall were replaced with heat pumps in May 2022. Staff is actively searching for grants and other funding opportunities to install heat pumps at other City facilities.
<b>Measure 5.2: Reduce and capture water use in City landscapes</b>		
Transition current water-intensive landscaping to drought-tolerant landscaping, limiting areas requiring intensive irrigation.	Public Works	<b>Ongoing.</b> Staff are monitoring and tracking water use in City landscapes and public areas. In FY 23/24, new landscape improvements included replacing water intensive plant material with native and drought tolerant alternatives and upgrading irrigation systems to be more water efficient.
Facilitate the installation of weather-based evapotranspiration (ET) controller irrigation systems in City landscapes.	Public Works	<b>Ongoing.</b> In FY 23/24, new landscape projects, including the new community pool, have been designed to include weather -based evapotranspiration controllers. When existing controllers need to be replaced, they are upgraded to weather based models.
Implement the City's Green Infrastructure Plan.	Public Works	<b>Ongoing.</b> Through the Municipal Regional Permit (MRP) 3.0, the City has 2027 green infrastructure targets. The City has designed the Grand Ave/Fairview Ave bulb-out project and anticipates to start construction in FY 24/25. Run-off from

		<p>Fairview will be treated in bioswales, treating .20 acres of impervious surface run-off.</p> <p>The new Piedmont Community Pool, currently under construction, has also been designed to have the City's first bio retention basin to treat impervious surface run-off on site.</p>
<b>Objective 6: Use the City's resources to disseminate and collect information on climate change</b>		
<b>Measure 6.1: Enhance and update the City's climate action program outreach efforts</b>		
Develop a user-friendly web page and/or build the City's social media presence to provide information on energy and water efficiency programs, waste reduction best practices, renewable energy, electric vehicles, and other resources. Investigate ways to include the GHG emissions reduction potential of each action.	Planning & Building	<p><b>Ongoing.</b></p> <p>As of May 2024, the City's website as it relates to these topics is undergoing a redevelopment process to increase accessibility and ensure a user-friendly experience.</p>
Distribute information to residents and commercial business owners on energy and water audit programs, rebates, waste reduction best practices, and environmental stewardship.	Planning & Building	<p><b>Ongoing.</b></p> <p>Along with information available on the City's website, City staff distribute information and resources at the Planning &amp; Building counter at City Hall.</p>
Host education events on residents reducing GHG emissions.	Planning & Building	<p><b>Ongoing.</b></p> <p>In spring 2024, the Sustainability Division participated at the Arbor and Earth Day Celebration as well as an art event hosted by the Piedmont Center of the Arts to provide education on topics such as reducing waste to landfill, electrification, clean water, and more.</p>
<b>Measure 6.2: Collect information to track progress on the Climate Action Plan</b>		
On application forms for building and design review permits include a questionnaire regarding energy efficiency improvements included in the construction, and that heightens awareness of others not considered.	Planning & Building	<p><b>Complete.</b></p> <p>In 2023, energy efficiency improvements, as outlined in City's Reach Codes (<a href="#">Ordinance 766 N.S.</a>), were integrated into the online building permit application process. Resources on additional improvements are included in the handout package for each building permit.</p>
<b>Objective 7: Consider adjusting taxes to reflect the social costs of carbon</b>		
<b>Measure 7.1: Reduce the City's carbon footprint through carbon pricing</b>		
Consider adjusting the utility tax to act as a revenue neutral carbon tax on natural gas while reallocating	Planning & Building,	<b>Action needed.</b>

money to reduce electricity and/or communication taxes through 2030.	Public Works, Finance	
Through a City vote, establish a carbon tax on natural gas that dedicates its revenue to energy efficiency, renewable energy, and fuel switching incentives for residents.	Planning & Building, Public Works, Finance	Action needed.
Support State and Federal efforts to establish a tax or fee on carbon.	Planning & Building	Ongoing. City Officials have participated in public forums on the topic in the past. Further opportunities will be evaluated as they emerge.

Deniz Ergun, *Sustainability Program Manager* | Alyssa Romea, *Climate Action Fellow*

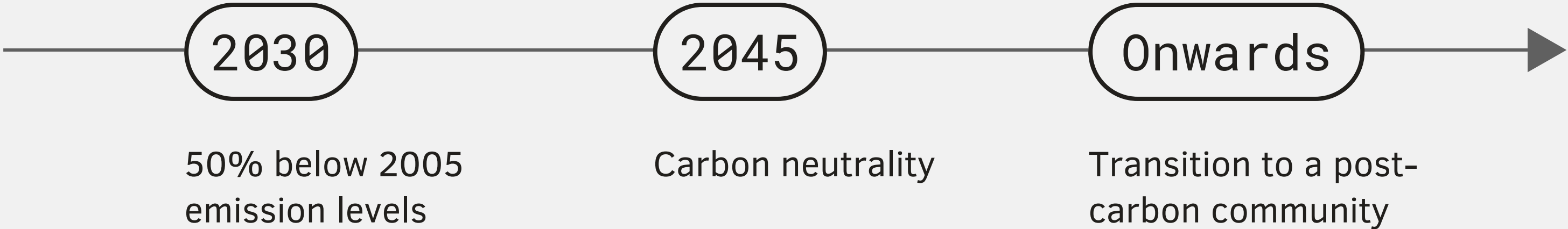
July 2024

# Climate Action Update

City of Piedmont



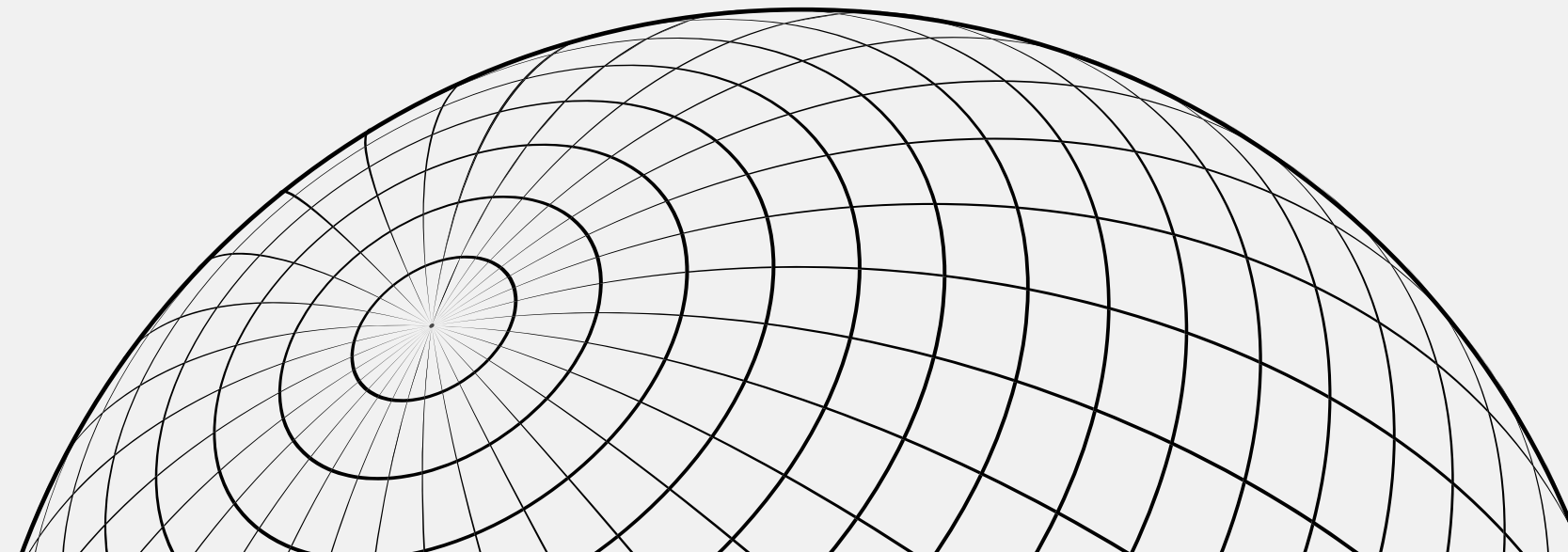
# Current Greenhouse Gas Emissions Goals



## EXHIBIT B

# Climate Action Plan 2.0 Implementation Update

CITY OF PIEDMONT





“Grasscrete” pavement in Shannon & Rob Bloemker’s home



“Certified Wildlife Habitat” signage at Hope & Larry Salzer’s home

Over the last year, the City continued implementing the Climate Action Plan 2.0 by:

- Achieving the Beacon Program’s **Vanguard Award** for success across emissions reductions and sustainability practices
- Showcasing four homes with **Sustainability Awards** to uplift and connect local climate leadership



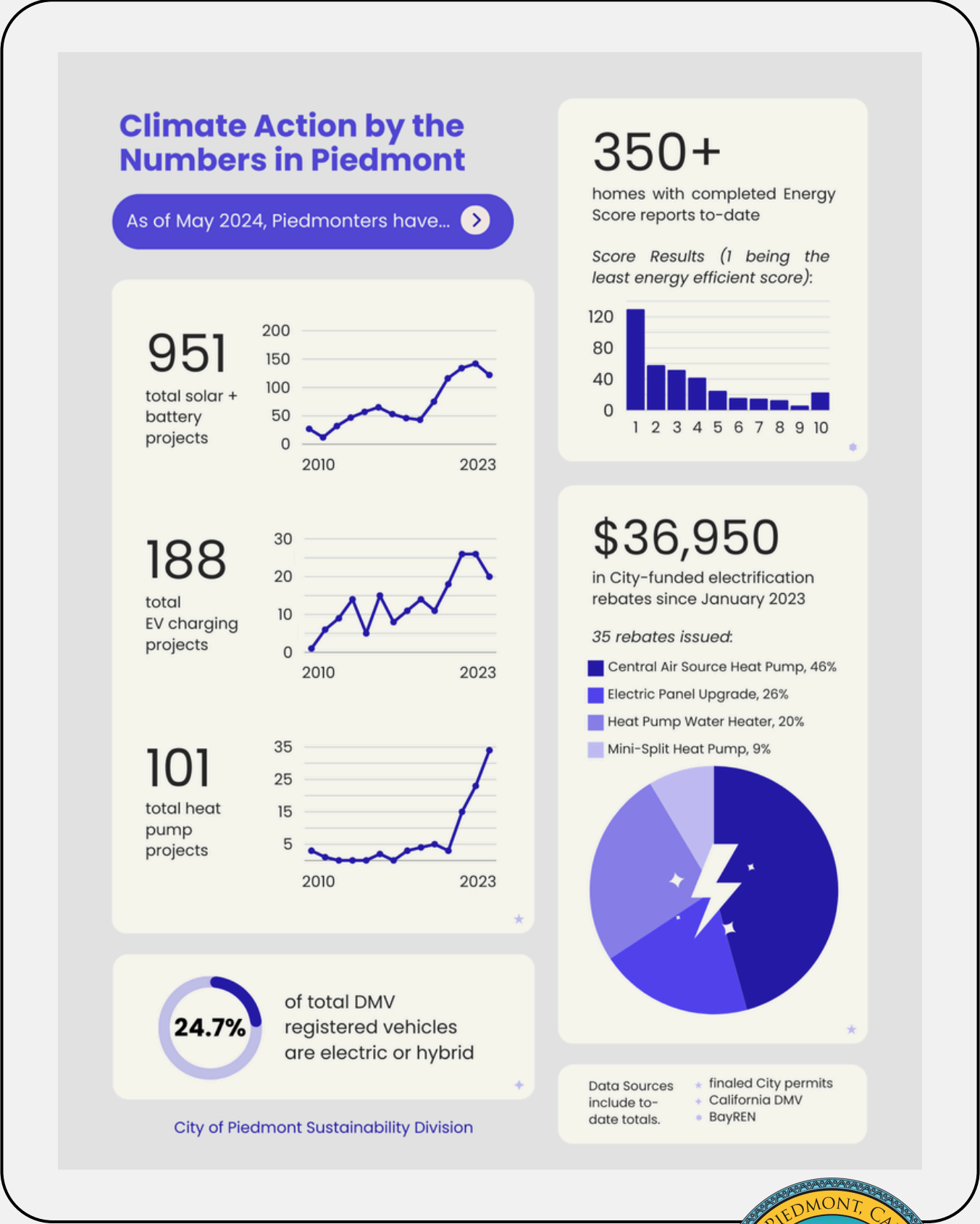
Two toddlers read a poster about clean water at the City’s Arbor and Earth Day celebration on April 26, 2024

- Completing an Urban Forest Inventory
- Engaging the community through educational events, including an Arbor and Earth Day Celebration
- Improving bike and pedestrian safety by installing three bulb-outs
- Partnering with Ava Community Energy to expand the Induction Cooktop Lending Program



# 1-Page Factsheet

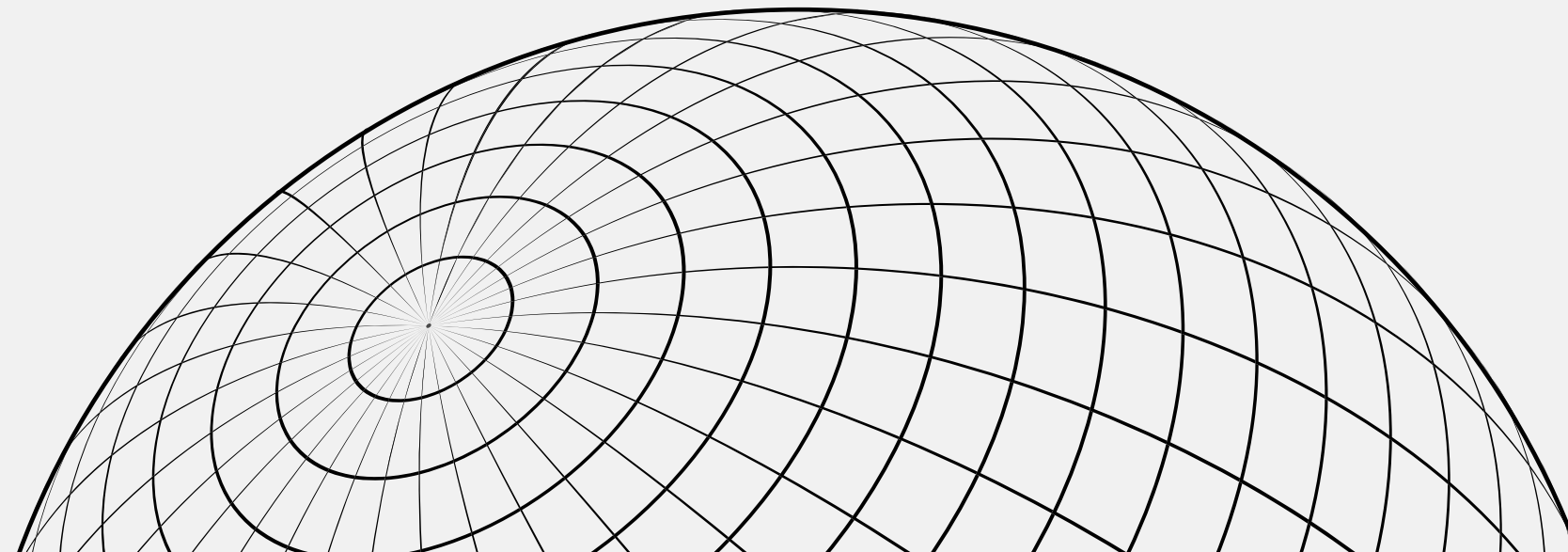
See Exhibit B of the staff report for a “Climate Action by the Numbers” infographic.



## EXHIBIT A

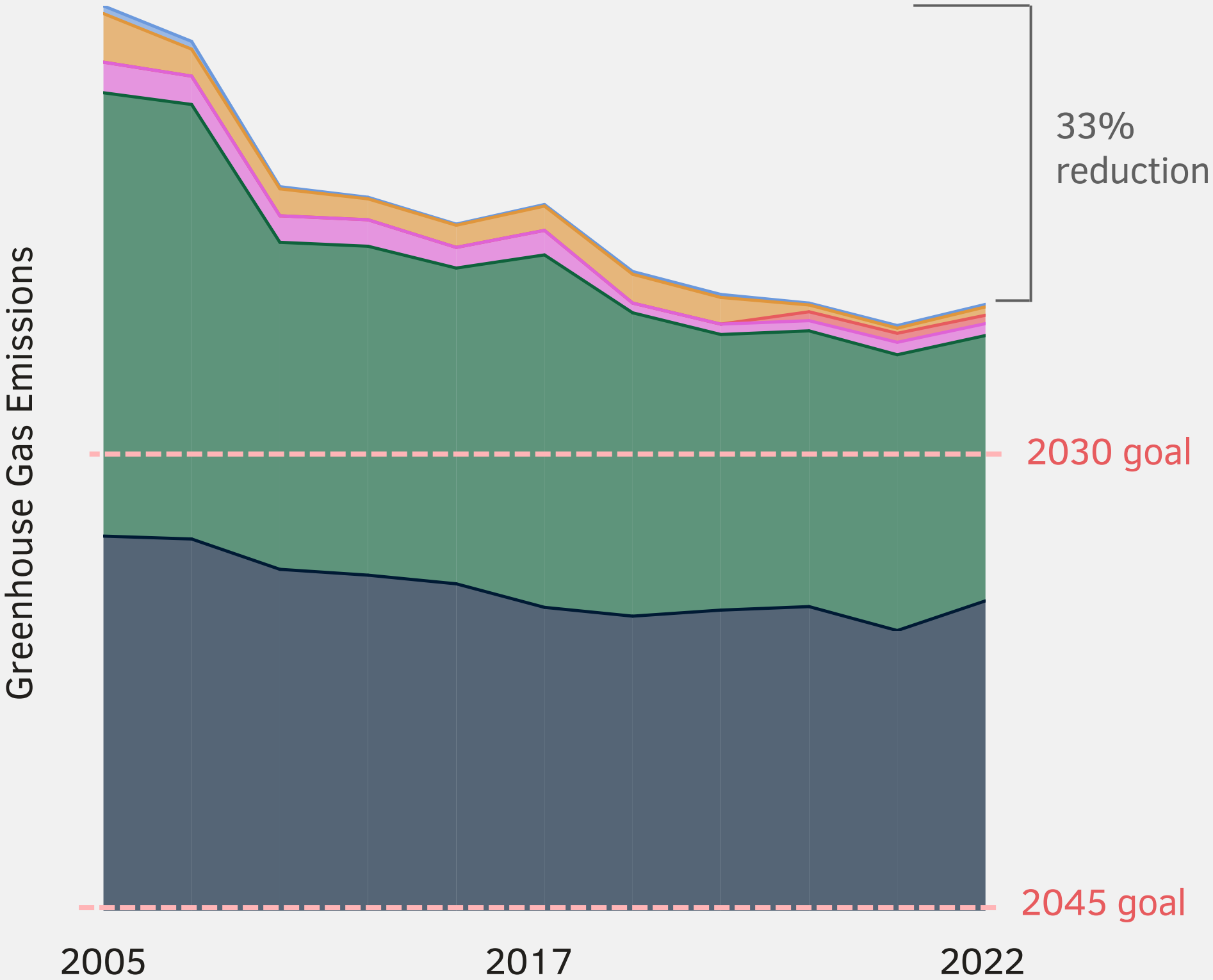
# 2022 Greenhouse Gas Inventory

CITY OF PIEDMONT

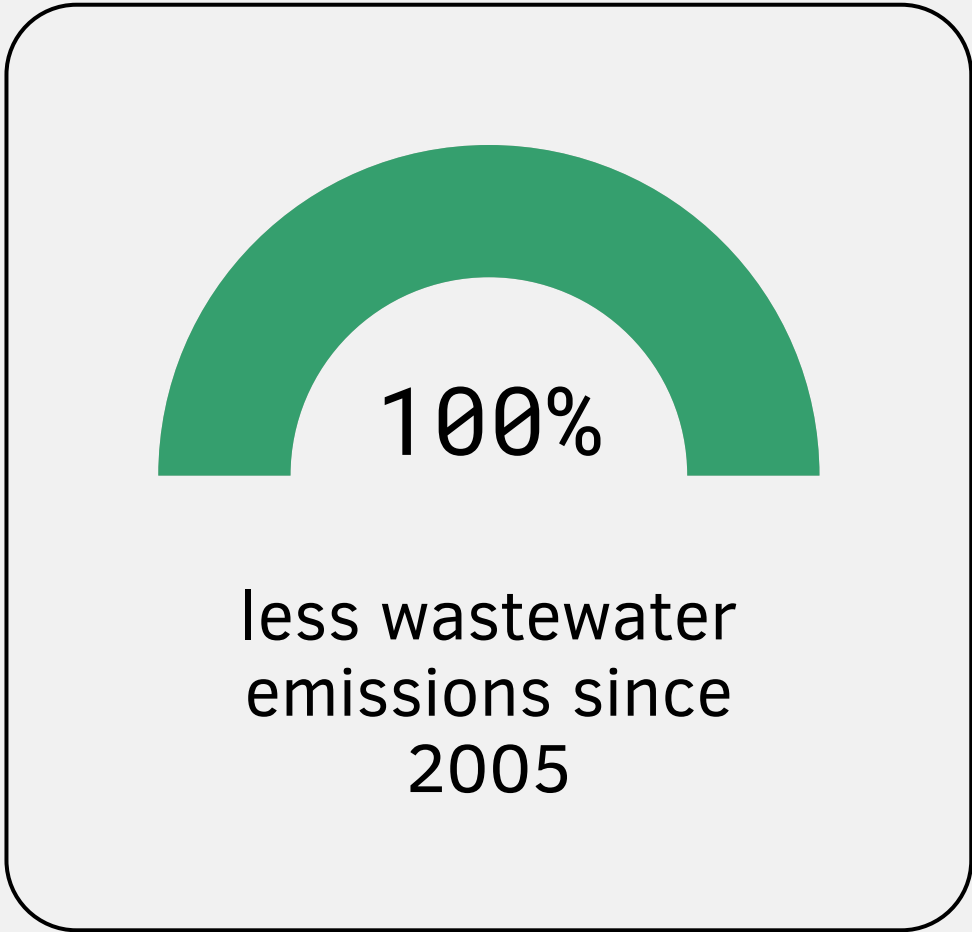
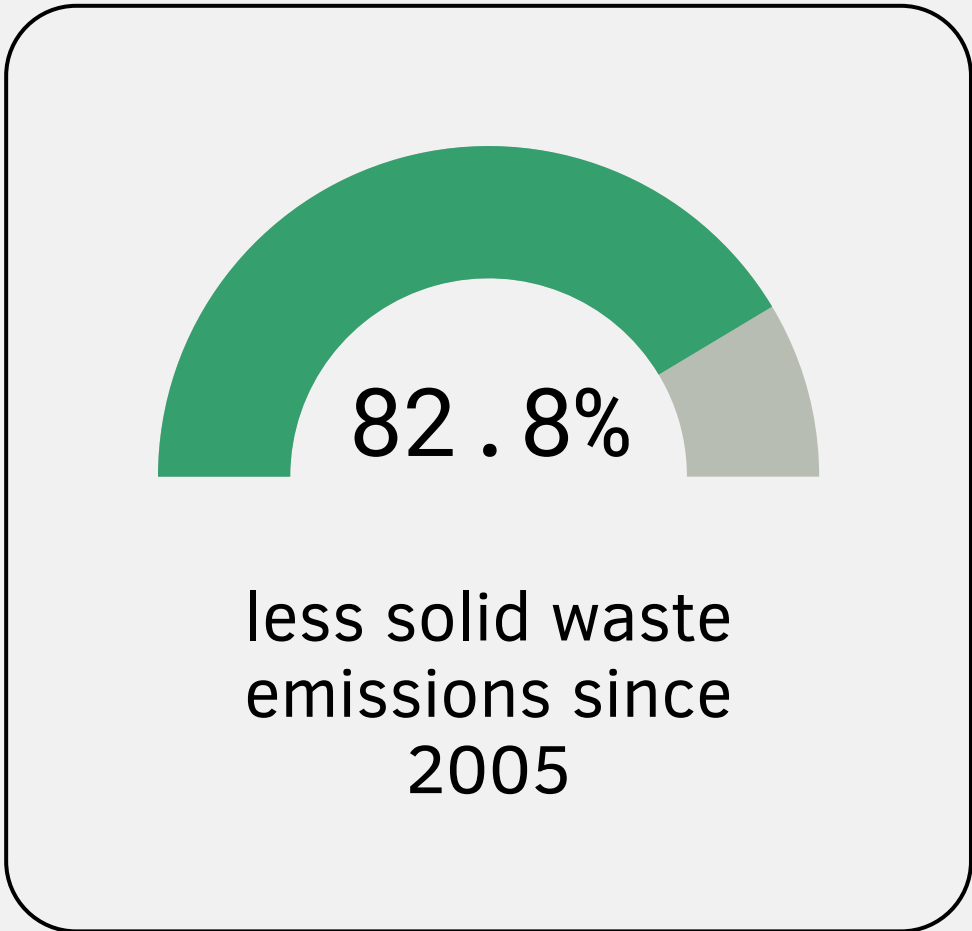
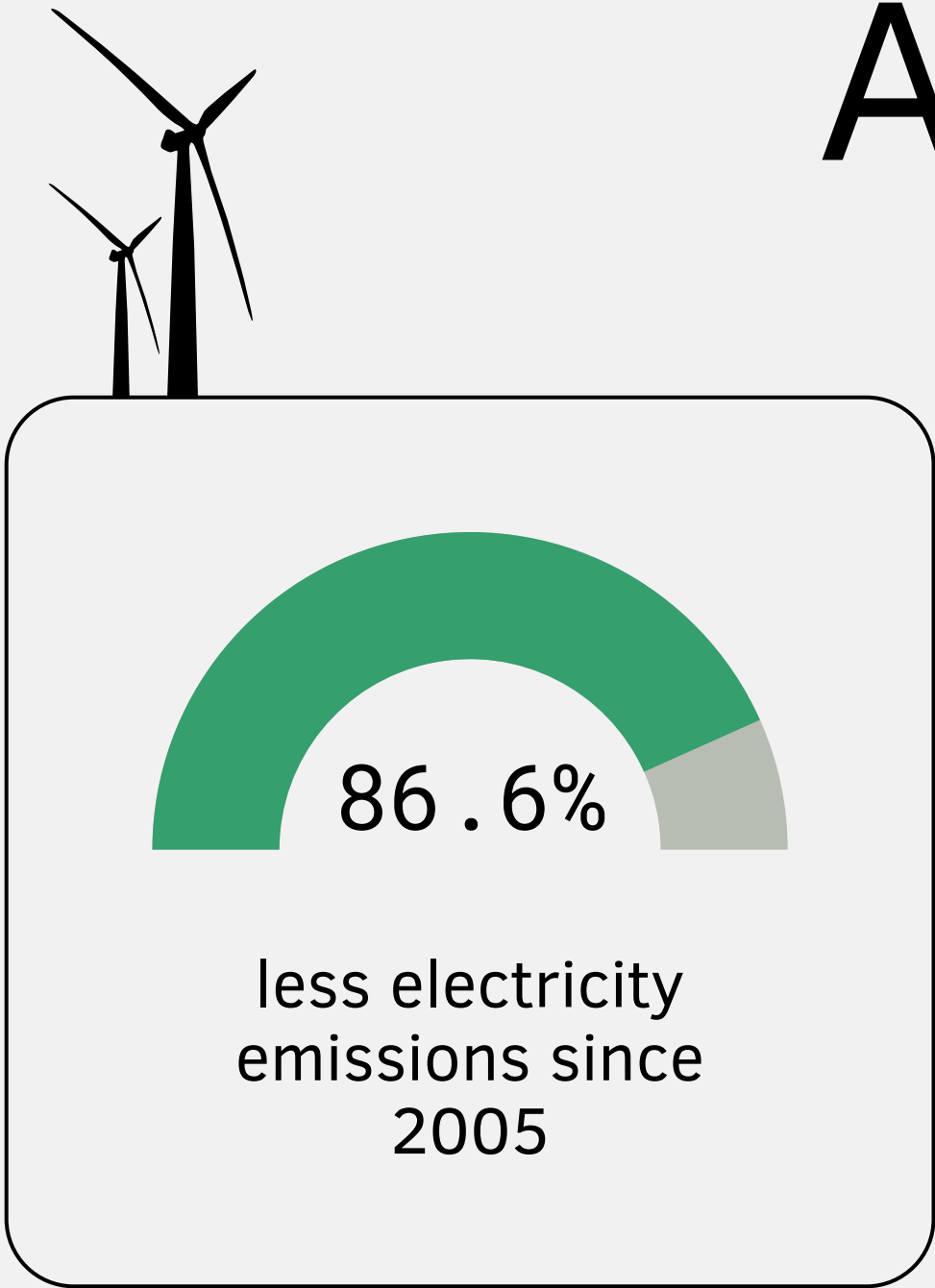


Since 2005,  
Piedmont’s citywide  
emissions have fallen  
**33.0%.**

- Water & Wastewater
- Solid Waste
- Process & Fugitive Emissions
- Commercial Energy
- Residential Energy
- Transportation & Mobile Sources

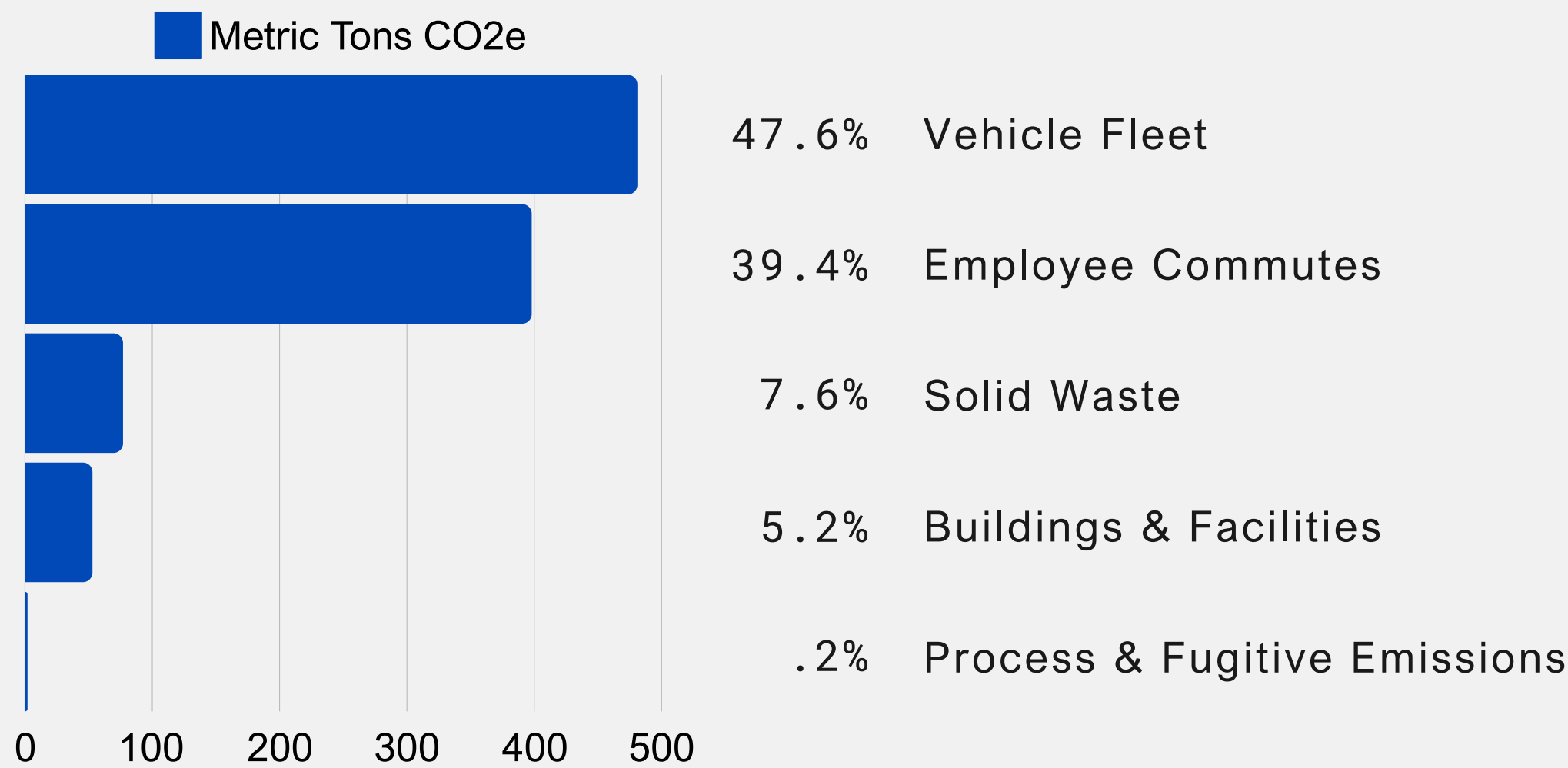


# Areas of Success



# Municipal activities continue to generate only 3.09% of citywide emissions.

Sources of Municipal Emissions in 2022



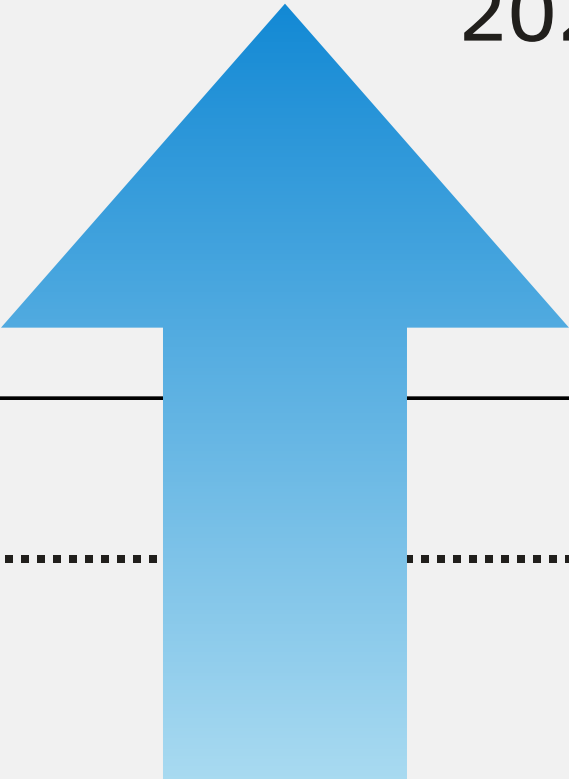
In 2022, emissions increased from the year before.

3 . 62%

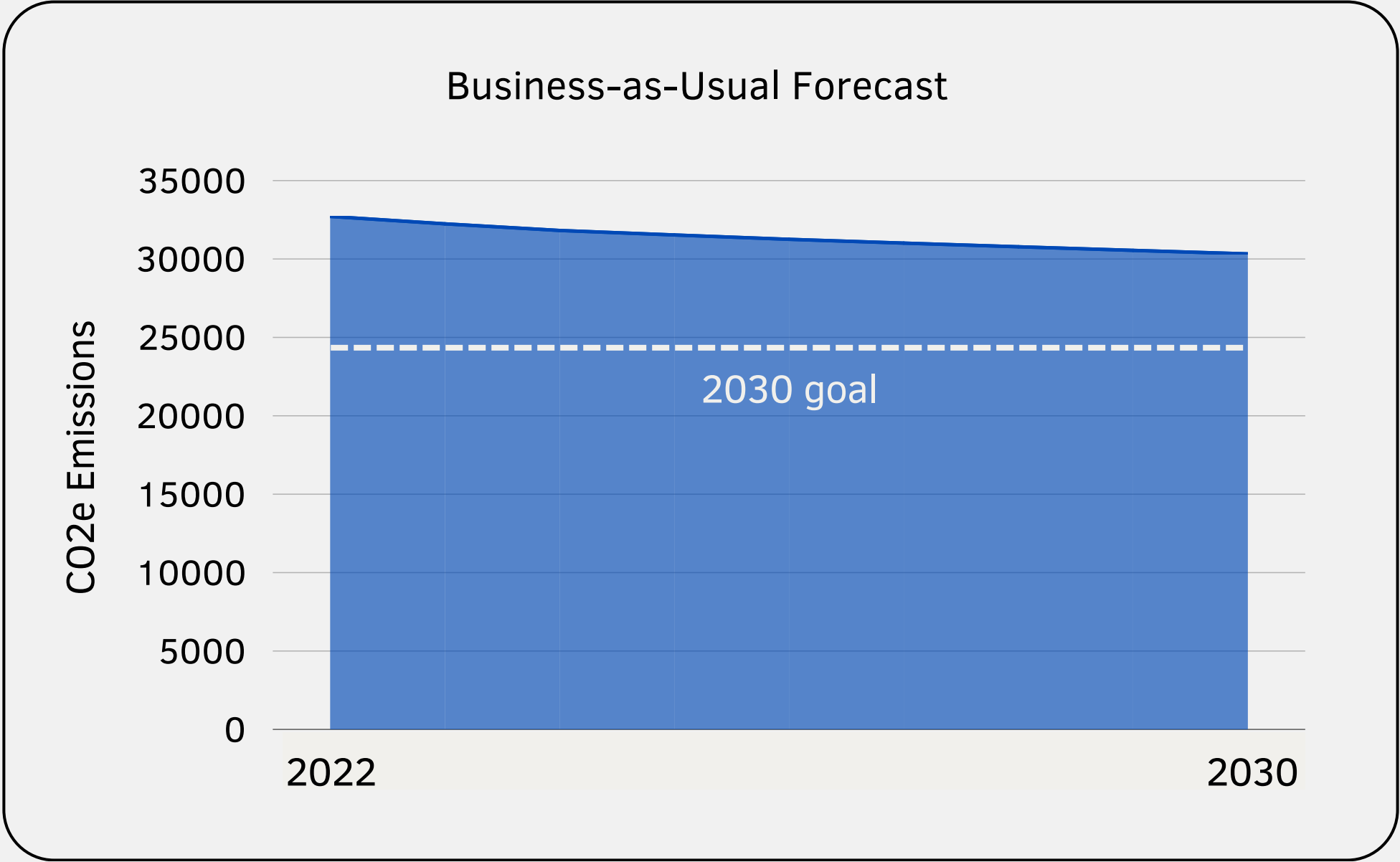
rise in citywide emissions since 2021

10 . 6%

rise in transportation emissions since 2021

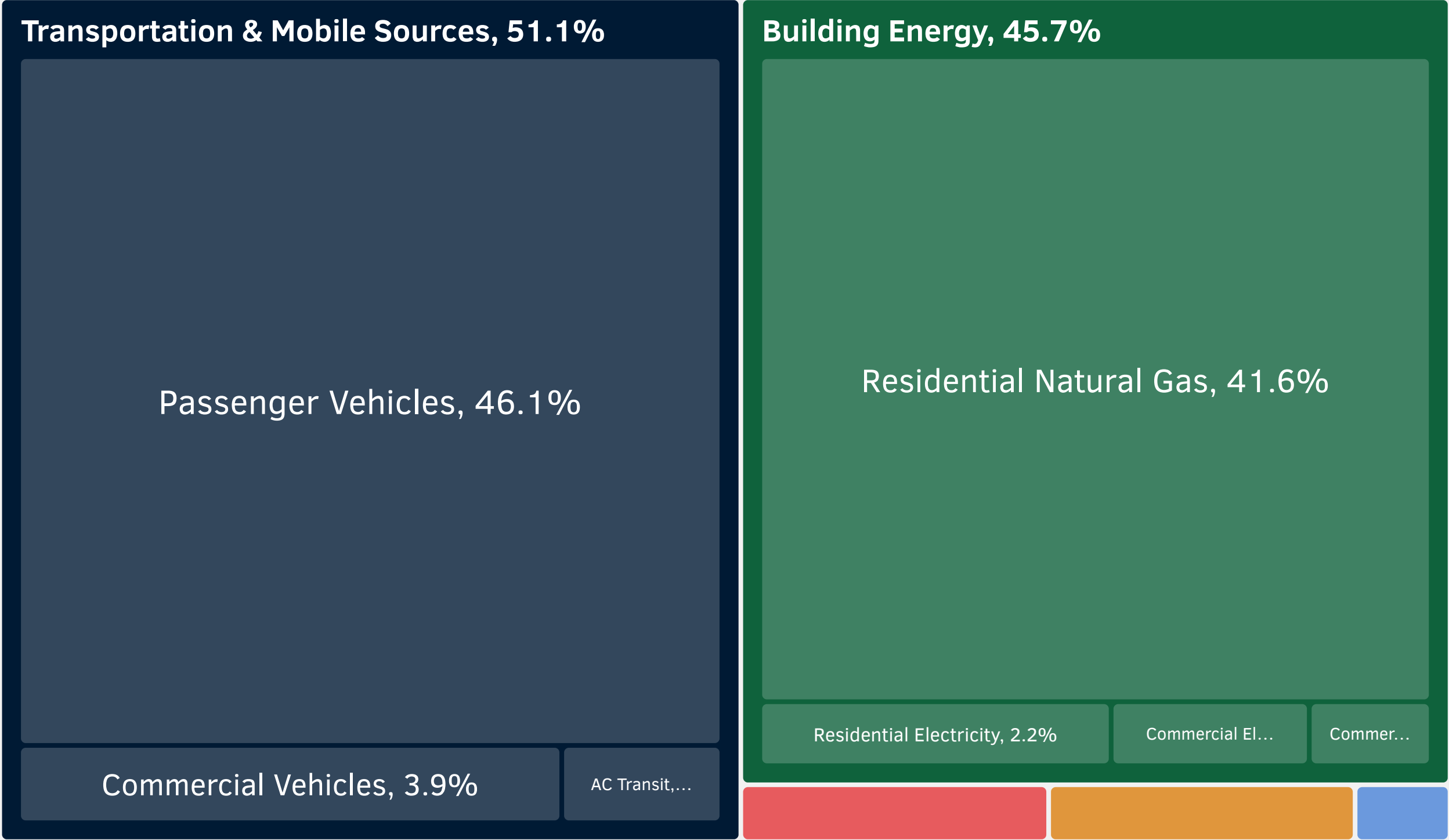


According to analysis by Local Governments for Sustainability (ICLEI), without new intervention, Piedmont **will not** meet its 2030 goal.

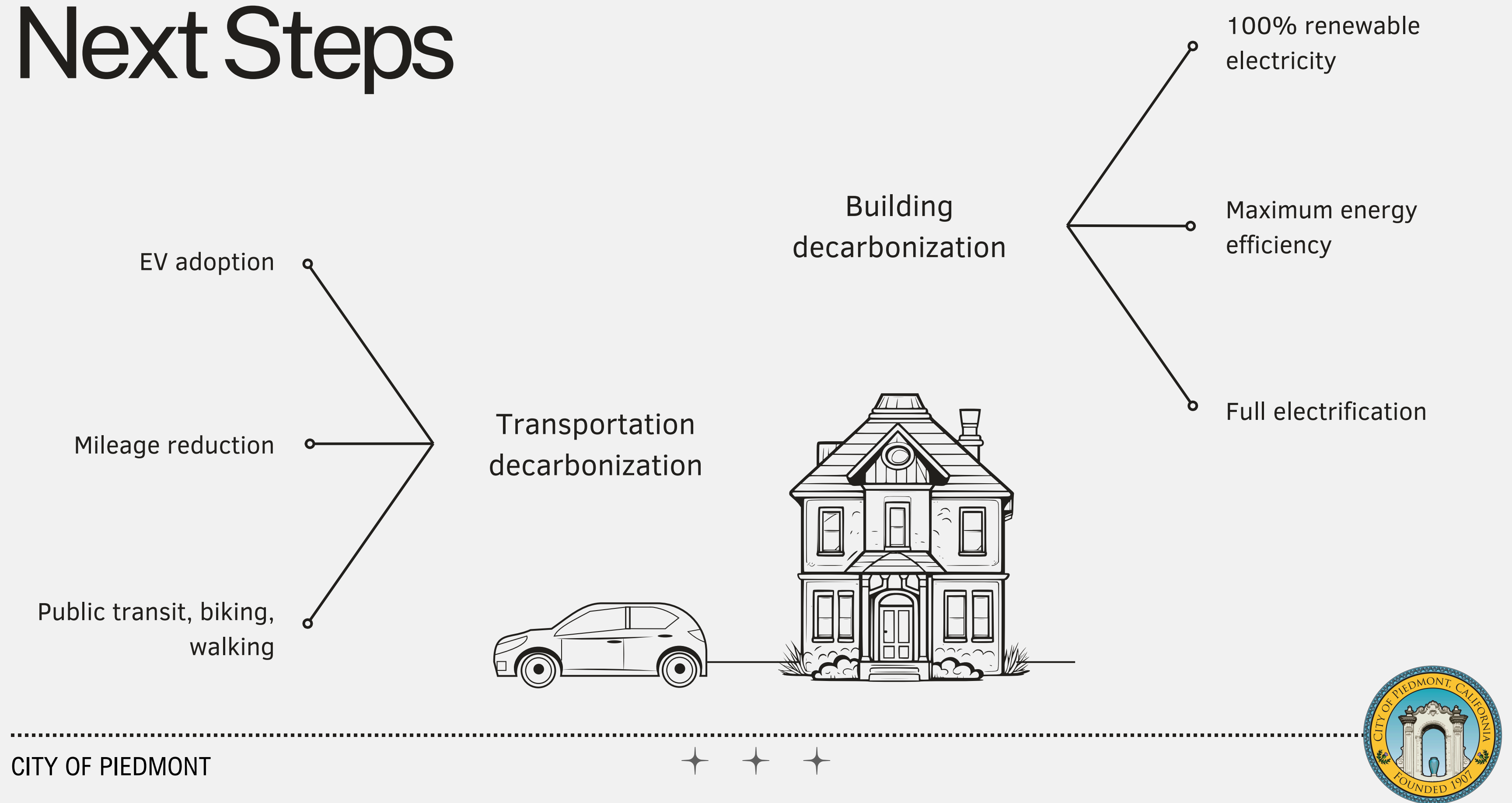


# Sources of Citywide Emissions in 2022

**\*** 96.8% of emissions came from transportation and building energy



# Next Steps



# Contacts

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