Memo

2054 University Ave, Suite 400
Berkeley, CA 94704
916.444.7301

Date: December 19, 2023

To: Cora Panturad and Deborah Paolinelli (County of Monterey)

From: Hannah Kornfeld, Sonam Sahu, John Steponick, and Poonam Boparai (Ascent)

Subject: County of Monterey Community Climate Action and Adaptation Plan and 2030 Municipal Climate Action Plan: Greenhouse Gas Reduction and Adaptation Measures – Draft Technical Memorandum

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1 INTRODUCTION

This technical memorandum outlines greenhouse gas (GHG) reduction and adaptation strategies and measures and summarizes the preliminary draft results of the quantitative "gap analysis" process for the County of Monterey's (County's) Community Climate Action and Adaptation Plan (CCAAP) and Municipal Climate Action Plan for 2030 (2030 MCAP). The adaptation strategies and measures, presented in Section 3, are largely informed by the findings of the *Climate Change Vulnerability Assessment*, which was conducted for the CCAAP. Regarding the gap analysis, its purpose is to confirm and quantify the suite of GHG reduction measures that would set the County on course to meet its reduction targets for 2030, 2040, and 2045 for both the community and municipal operations. The gap analysis process quantifies the GHG emissions reduction measures and evaluates the calculated gap between the estimated GHG reductions and the recommended targets.

2 GREENHOUSE GAS EMISSIONS REDUCTION MEASURES

2.1 COMMUNITY GREENHOUSE GAS EMISSIONS REDUCTION MEASURES

Based on the results of the GHG emissions forecasting, additional GHG reductions are needed to achieve the community emissions reduction targets for 2030, 2040, and 2045. Ascent worked with County staff, sector working groups, and members of the public to develop a draft list of GHG reduction measures.

The measures presented below are organized under six categories that generally align with the emissions sectors included in Table 1: building energy (including residential and non-residential building energy use), on-road transportation, off-road vehicles and equipment, solid waste, water and wastewater, and agriculture. Each category includes one or more broad strategies to reduce emissions, such as energy efficiency, renewable energy, and waste diversion. The measures are organized under each strategy, which are more specific expressions of the strategies. Metrics are provided for measures that are quantified to help the County meet its reduction targets. These include performance indicators by which progress can be tracked and monitored for implementation.

In the CCAAP, all measures and/or actions will also include an analysis of the staff time needed for implementation and identify agencies and departments responsible for implementation as well as stakeholder groups where partnerships can be formed to facilitate successful implementation.

GHG reductions associated with these measures were calculated in a stepwise manner for the years 2030, 2040, and 2045. In other words, GHG reductions (in metric tons of carbon dioxide equivalent [$MTCO_2e$]) are assessed during a snapshot in time in years 2030, 2040, and 2045. Measures are quantified for a single year rather than adding cumulative reductions from prior years, which aligns with the methodology used to derive the County's GHG reduction targets and aligns with the California Governor's Office of Planning and Research General Plan Guidelines. Importantly, GHG emissions reductions were quantified for measures wherever substantial evidence and reasonable assumptions were available to support calculations. County staff and Ascent also identified measures that were not quantifiable because of a lack of available data or quantification methods but would still be expected to reduce GHG emissions. These measures are listed in this technical memorandum and will be discussed qualitatively in the CCAAP and 2030 MCAP. They can be monitored for potential quantification opportunities in the future if data and/or quantification methods become available.

Preliminary estimates of GHG emissions reductions, along with an estimated emissions "gap" (i.e., the difference between the effective GHG reductions required to meet the targets and the total GHG reductions), are summarized in Table 1 below and illustrated in Figure 1 in Section 2.1.7. Descriptions of the measures and quantification assumptions are provided in the following sections.

Table 1 Community GHG Emissions Reduction Measures

Measure Number	Strategy	Measure	GHG Reductions ($MTCO_2e$)		
			2030	2040	2045
Building Energy					
BE-1.1	Energy Efficiency and Electrification	Increase energy efficiency and electrification in existing residential and nonresidential buildings.	23,825	47,867	95,859
BE-1.2		Increase energy efficiency and electrification in new residential and nonresidential buildings.	5,434	10,253	12,835
BE-2.1	Clean Energy	Maximize reliable, emissions-free energy generation, transmission, and storage locally.	5,054	9,758	0
		Building Energy Subtotal	**34,313**	**67,878**	**108,694**
On-Road Transportation					
TR-1.1	Sustainable Transportation and Land Use Planning	Reduce passenger vehicle miles traveled in accordance with AMBAG's 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy.	56,512	54,070	49,156
TR-1.2		Plan for transit-oriented, mixed-use, compact development.	N/A	N/A	N/A
TR-2.1	Low- and Zero-Emission Vehicles	Transition to low- and zero-emission vehicles.	60,218	148,951	119,706
TR-3.1	Transit System Improvements	Provide transit options that are accessible, reliable, and convenient.	N/A	N/A	N/A
TR-4.1	Active Transportation	Make walking and biking safe and accessible for people of all ages and abilities.	N/A	N/A	N/A
		On-Road Transportation Subtotal	**116,793**	**203,021**	**168,862**
Off-Road Vehicles and Equipment					
OR-1.1	Electrification and Clean Alternatives	Reduce construction-related emissions.	1,414	2,745	3,215
OR-1.2		Transition to zero-emission landscaping equipment.	79	562	662
OR-1.3		Transition to zero-emission recreational boats.	36	247	352
		Off-Road Vehicles and Equipment Subtotal	**1,529**	**3,554**	**4,229**
Solid Waste					
SW-1.1	Waste Diversion	Increase Residential and Commercial Organic Waste Diversion	43,336	43,878	44,143
		Solid Waste Subtotal	**43,336**	**43,878**	**44,143**
Water and Wastewater					
WA-1.1	Water Conservation	Retrofit water fixtures to ultra-low-flow.	1,034	555	0
WA-12.1		Increase production and use of recycled water for irrigation.	13,373	7,363	0
		Water and Wastewater Subtotal	**14,407**	**7,918**	**0**
Agriculture and Conservation					
AG-1.1	Carbon Sequestration and Storage	Increase compost application on agricultural lands.[1]	161,135	161,135	161,135
AG-1.2		Support the development of carbon farm plans in Monterey County.	N/A	N/A	N/A
AG-1.3		Enhance riparian habitats.	N/A	N/A	N/A
AG-1.4		Increase tree cover.[1]	53	159	212
AG-2.1	Livestock Management	Promote responsible grazing management.	N/A	N/A	N/A

Measure Number	Strategy	Measure	GHG Reductions ($MTCO_2e$)		
			2030	2040	2045
AG-3.1	Agricultural Equipment	Improve efficiency of agricultural equipment and irrigation pumps and electrify as feasible.	4,411	7,768	4,163
AG-4.1	Fertilizer Application	Reduce fertilizer use in accordance with Ag Order 4.0.	N/A	N/A	N/A
AG-5.1	Natural and Working Lands Management	Preserve and enhance natural and working lands in Monterey County.	N/A	N/A	N/A
		Agriculture and Conservation Subtotal (excluding sequestration benefits)	**4,411**	**7,768**	**4,163**
Total Reductions from Measures (excluding sequestration benefits)			**214,789**	**334,017**	**330,090**
Reduction Needed to Meet Target			371,345	580,314	702,475
Target Met?			No	No	No
Remaining Gap to Target			156,556	246,298	372,384

Notes: Total may not sum exactly due to independent rounding. AMBAG = Association of Monterey Bay Area Governments; EV = electric vehicle; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent; N/A = not applicable.

[1] Sequestration benefits from these actions are not included in Agriculture and Conservation total.

Source: Calculations conducted by Ascent in 2022.

2.1.1 Building Energy

ENERGY EFFICIENCY AND ELECTRIFICATION

Measure BE-1.1: Increase energy efficiency and electrification in existing residential and nonresidential buildings.

Quantification assumptions: This measure assumes that 5 percent of both existing residential and existing nonresidential building square footage are fully electrified by 2030, 10 percent by 2040, and 20 percent by 2045.

Measure BE-1.2: Increase energy efficiency and electrification in new residential and nonresidential buildings.

Quantification assumptions: This measure assumes that all new residential and nonresidential buildings are all electric with the adoption of reach codes for all building types associated with the 2025 Title 24 Standards cycle (which takes effect January 1, 2026).

CLEAN ENERGY

Measure BE-2.1: Maximize reliable, emissions-free energy generation, transmission, and storage locally.

Quantification assumptions: This measure assumes that 100 percent of the remaining electricity emissions occurring in 2030 and 2040 from PG&E customers is replaced with carbon-free electricity. Because of the requirements pursuant to SB 100, 100 percent of electricity from all utility providers will be carbon-free by 2045. This measure also assumes that electric vehicle charging needs would be met with 100 percent clean energy starting in 2030 through 2045.

2.1.2 On-Road Transportation

SUSTAINABLE TRANSPORTATION AND LAND USE PLANNING

Measure TR-1.1: Reduce passenger vehicle miles traveled in accordance with AMBAG's 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy.

Quantification assumptions: This measure assumes a 6 percent reduction in annual passenger vehicle miles traveled by 2035 from a 2005 baseline, as is presented in AMBAG's 2045 MTP/SCS for the Monterey Bay region.

Measure TR-1.2: Plan for transit-oriented, mixed-use, compact development.

Quantification assumptions: This measure is not quantified to avoid double-counting emissions reductions associated with Measure TR-1.1.

LOW- AND ZERO-EMISSION VEHICLES

Measure TR-2.1: Transition to low- and zero-emission vehicles.

Quantification assumptions: This measure assumes that 25 percent of light-duty vehicles are electric or hybrid by 2030 and assumes an increase to 75 percent of light-duty vehicles by 2040, and 85 percent by 2045. This measure also assumes an increase in medium- and heavy-duty vehicles of 26 percent by 2030, 102 percent by 2040, and 127 percent by 2045, consistent with CARB's 2020 Mobile Source Strategy and Executive Order N-79-20.Transit System Improvements

Measure TR-3.1: Support the development of transit options that are accessible, reliable, and convenient.

Quantification assumptions: This measure is not quantified to avoid double-counting emissions reductions associated with Measure TR-1.1.

ACTIVE TRANSPORTATION

Measure TR-4.1: Make walking and biking safe and accessible for people of all ages and abilities.

Quantification assumptions: This measure is not quantified due to avoid double-counting emissions reductions associated with Measure TR-1.1.

2.1.3 Off-Road Vehicles and Equipment

ELECTRIFICATION AND CLEAN ALTERNATIVES

Measure OR-1.1: Reduce construction-related emissions.

Quantification assumptions: This measure assumes that 50 percent of construction equipment will use renewable diesel by 2030, 75 percent by 2040, and 80 percent by 2045. This measure also assumes that 2 percent of construction equipment is electric powered by 2030, 15 percent by 2040, and 19 percent by 2045. The assumptions intend to meet the California Air Resources Board's (CARB's) 2020 Mobile Source Strategy targets for Off-Road Efficiency Improvement.

Measure OR-1.2: Transition to zero-emission landscaping equipment.

Quantification Assumptions: This measure assumes 12 percent of landscaping equipment is electrified by 2030, increasing to 100 percent by 2045. The assumptions intend to meet CARB's 2020 Mobile Source Strategy targets for Off-Road Efficiency Improvement.

Measure OT-1.3: Transition to zero-emission recreational boats.

Quantification assumptions: This measure assumes 12 percent of recreational boats are electrified by 2030, increasing to 100 percent by 2040.

2.1.4 Solid Waste

WASTE DIVERSION

Measure SW-1.1: Increase organic waste diversion.

Quantification assumptions: This measure assumes the residential and commercial waste diversion rates increase to 75 percent by 2030, and are maintained through 2045, in alignment with SB 1383.

2.1.5 Water and Wastewater

WATER CONSERVATION

Measure WA-1.1: Retrofit water fixtures to ultra-low-flow.

Quantification assumptions: This measure assumes a 25 percent, 30 percent, and 35 percent reduction in residential water consumption by 2030, 2040, and 2045, respectively; and 31 percent, 36 percent, and 41 percent reduction in nonresidential water consumption by 2030, 2040, and 2045, respectively, based on CAPCOA's Quantifying Greenhouse Gas Mitigation Measures Report, Measure WUW-1 (CAPCOA 2010). It assumes a 5 percent efficiency gain for new development due to efficiencies in installation and design standards.

Measure WA-2.1: Increase production and use of recycled water for irrigation.

Quantification assumptions: This measure assumes a 25 percent, 30 percent, and 35 percent reduction in existing water consumption for irrigation by 2030, 2040, and 2045, respectively; and 60 percent, 70 percent, and 75 percent reduction in new irrigation by 2030, 2040, and 2045, respectively.

2.1.6 Agriculture and Conservation

CARBON SEQUESTRATION AND STORAGE

Measure AG-1.1: Increase compost application on agricultural lands.

Quantification assumptions: This measure assumes that 30 percent of land that meets the following conditions applies compost annually through 2045: unincorporated areas of Monterey County that are identified as agricultural lands by the Monterey County Ranch Map Atlas 2020, excluding areas with slopes greater than 20 percent, areas within 30 feet of waterways, and serpentine areas.

Measure AG-1.2: Support the development of carbon farm plans in Monterey County.

Quantification assumptions: This measure is not quantified due to potential double counting with reductions achieved in Measure AG-1.1.

Measure AG-1.3: Enhance riparian habitats.

Quantification assumptions: Not quantified.

Measure AG-1.4: Increase tree cover.

Quantification assumptions: This measure assumes that 300 trees are planted annually between 2030 and 2045.

LIVESTOCK MANAGEMENT

Measure AG-2.1: Promote best management practices for livestock grazing.

Quantification assumptions: This measure is not quantified due to lack of available data and methodologies.

AGRICULTURAL EQUIPMENT

Measure AG-3.1: Improve efficiency of agricultural equipment and irrigation pumps and electrify as feasible.

Quantification assumptions: This measure assumes that 40 percent of agricultural equipment is Tier 4 Final-rated by 2030, 50 percent by 2040, and 60 percent by 2045. Additionally, this measure assumes that 5 percent of agricultural equipment is electrified by 2030, 10 percent by 2040, and 15 percent by 2045. This measure also assumes that 5 percent of irrigation pumps are electric powered by 2030, 10 percent by 2040, and 15 percent by 2045.

FERTILIZER APPLICATION

Measure AG-4.1: Reduce fertilizer use in accordance with Ag Order 4.0.

Quantification assumptions: Not quantified.

NATURAL AND WORKING LANDS MANAGEMENT

Measure AG-5.1: Preserve and enhance natural and working lands in Monterey County.

Quantification assumptions: This measure is not quantified to avoid double-counting with Measure AG-1.1.

2.1.7 Community Conclusion

The total estimated GHG emissions reductions from all community measures quantified would be 214,789 $MTCO_2e$ in 2030; 334,017 $MTCO_2e$ in 2040; and 330,090 $MTCO_2e$ in 2045. This would result in total community GHG emissions of 791,519 $MTCO_2e$ in 2030; 617,447 $MTCO_2e$ in 2040; and 611,626 $MTCO_2e$ in 2045. The total estimated reductions from all proposed GHG reduction measures would not be sufficient to meet 2030, 2040, or 2045 emission reduction targets.

The scale of reductions required to achieve the 2030 and 2040 emission reduction targets, and the carbon neutrality target for 2045 discussed earlier would require significant improvements in the availability and/or cost of near-zero- and zero-emission technologies, an analysis of carbon sequestration potential, and potential increased reductions

from ongoing State and federal legislative actions that are currently unknown. Progress toward meeting future targets that could be set by the State would be part of the ongoing monitoring and updates to the CCAAP as new legislation or future updates to the State's Climate Change Scoping Plan are adopted.

Figure 1 shows the GHG reductions achieved by the proposed measures, organized by the sectors used for the inventories and forecasts (note: the nonresidential and residential building energy sectors have been combined, as have the water supply and wastewater treatment sectors). It shows the County's communitywide emissions with GHG reduction measures and demonstrates progress toward 2030, 2040, and 2045 targets.

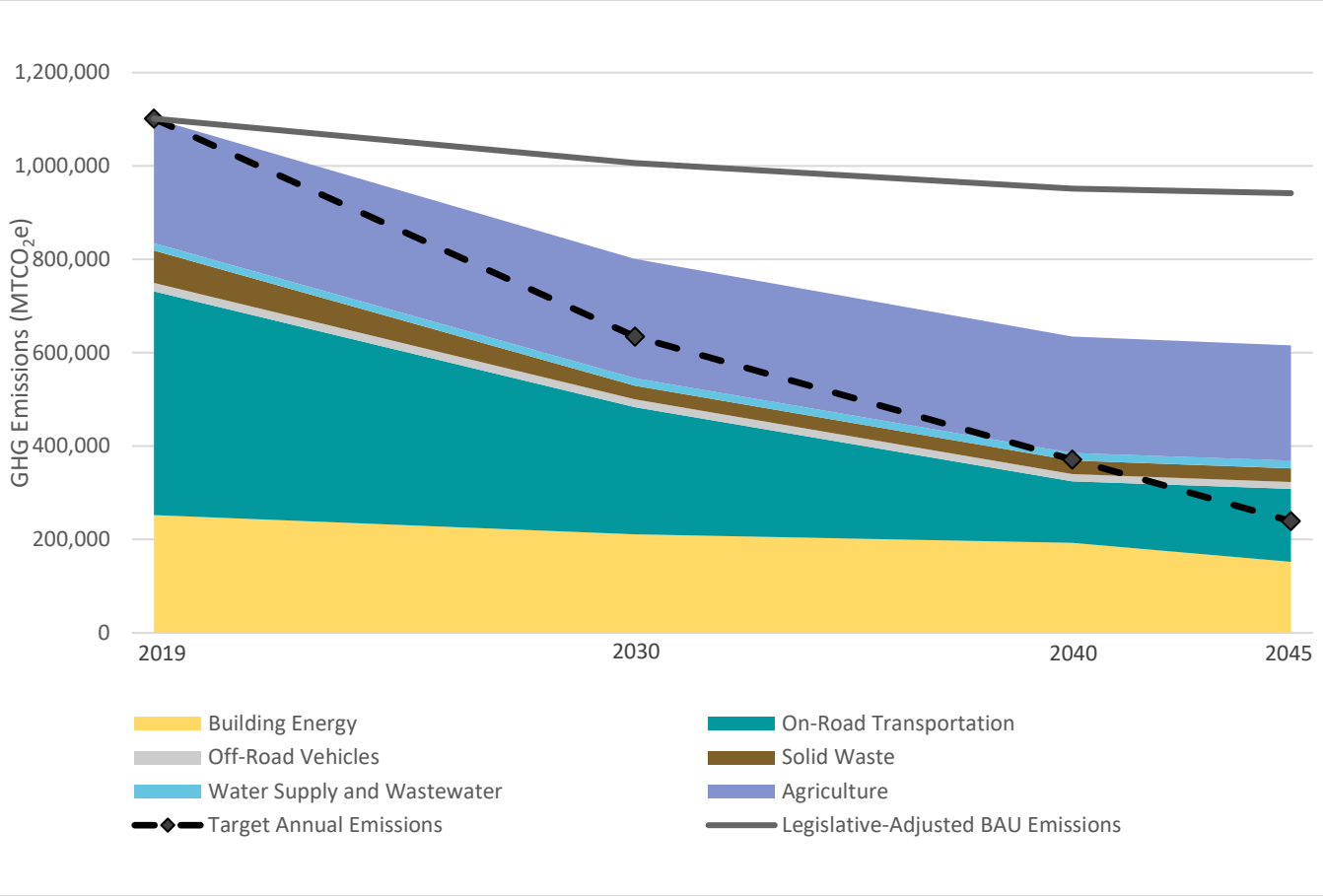

Figure 1 County of Monterey Community Legislative-Adjusted BAU Emissions Forecast by Sector with Implementation of Proposed GHG Reduction Measures and Emissions Reduction Targets: 2030, 2040 and 2045

2.2 MUNICIPAL OPERATIONS GREENHOUSE GAS EMISSIONS REDUCTION MEASURES

Additional GHG reductions, beyond the anticipated reductions from state and federal regulations, are needed to achieve the municipal operations emissions reduction targets for 2030, 2040, and 2045. Ascent worked with County staff to develop a draft list of recommended GHG reduction measures based on policies and goals identified in the County's MCAP and other sustainability planning efforts, as well as new measures informed by current best practices.

The measures presented below are organized under five categories that generally align with the emissions sectors included in Table 2: buildings and facilities (i.e., buildings, facilities, streetlights, and traffic signals), employee

commute, vehicle fleet, solid waste, and water and wastewater. The framework for this section is the same as Section 2.1; at least one strategy and measure are provided for each emissions category, and measures include quantified GHG emissions reductions (where feasible) and performance indicator metrics.

Preliminary estimates of GHG emissions reductions, along with an estimated emissions gap are summarized in Table 2 below and illustrated in Figure 2 in Section 2.2.6. Descriptions of the measures and quantification assumptions are provided in the following sections.

Table 2 Municipal Operations GHG Emissions Reduction Measures

Measure Number	Strategy	Measure	GHG Reductions ($MTCO_2e$)		
			2030	2040	2045
Buildings and Facilities					
ME-1.1	Energy Efficiency and Electrification	Require new municipal buildings to be all electric.	54	226	364
ME-1.2		Retrofit existing municipal buildings to be all electric.	224	565	1,318
ME-2.1	Clean & Renewable Energy	Transition to 100 percent clean electricity by 2030.	1,178	541	-
		Buildings and Facilities Subtotal	**1,456**	**1,332**	**1,683**
Employee Commute					
MEC-1.1	Sustainable Employee Commutes	Reduce vehicle miles traveled and single-occupancy employee commute trips. Encourage use of public and multimodal transportation for employees.	490	553	654
MEC-2.1		Encourage employees to use alternatively fueled vehicles.	27	48	72
		Employee Commute Subtotal	**517**	**600**	**726**
Vehicle Fleet					
MVF-1.1	Zero-Emission Fleet	Replace the County's gasoline- and diesel-powered vehicles with zero-emission vehicles.	3,503	1,837	1,866
		Vehicle Fleet Subtotal	**3,503**	**1,837**	**1,866**
Solid Waste					
MSW-1.1	Waste Diversion	Increase waste diversion at County facilities.	373	640	650
MSW-2.1		Increase construction and demolition diversion rates at County construction sites.	N/A	N/A	N/A
		Solid Waste Subtotal	**737**	**640**	**650**
Water Supply and Wastewater Treatment					
MWA-1.1	Water Conservation	Reduce municipal water consumption.	4	2	0
		Water Supply and Wastewater Treatment Subtotal	***4***	***2***	***0***
Total Reductions from Measures			**5,855**	**4,413**	**4,927**
Reduction Needed to Meet Target			8,556	13,908	16,924
Target Met?			No	No	No
Remaining Gap to Target			2,701	9,495	11,997

Notes: Total may not sum exactly due to independent rounding. GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent; N/A = not applicable; VMT = vehicle miles traveled.

Source: Calculations conducted by Ascent in 2022.

2.2.1 Buildings and Facilities

ENERGY EFFICIENCY AND ELECTRIFICATION

Measure ME-1.1: Require new municipal buildings to be all electric.

Quantification assumptions: The measure assumes 100 percent electrification of newly constructed municipal building and facilities starting in 2026, including carbon-free back-up energy sources.

Measure ME-1.2: Retrofit existing municipal buildings to be all electric.

Quantification assumptions: This measure assumes that the County implements energy efficiency upgrades to lighting, heating, ventilation, and air conditioning systems. The measure assumes the electrification of 5, 10, and 20 percent of existing municipal buildings by the years 2030, 2040, and 2045, respectively.

CLEAN & RENEWABLE ENERGY

Measure ME-2.1: Transition to 100 percent clean electricity by 2030.

Quantification assumptions: This measure assumes that by 2030 all electricity purchased is 100 percent carbon-free.

2.2.2 Employee Commute

SUSTAINABLE EMPLOYEE COMMUTES

Measure MEC-1.1: Reduce vehicle miles traveled and single-occupancy employee commute trips. Encourage use of public and multimodal transportation for employees.

Quantification assumptions: This measure assumes that the County implements a variety of transportation demand management initiatives to reduce employee commute emissions by 4 percent by 2030, 5 percent by 2040, and 6 percent by 2045.

Measure MEC-2.1: Encourage employees to use alternatively fueled vehicles.

Quantification assumptions: This measure assumes an increase in zero-emission vehicles for employee commutes of 6 percent by 2030, 9 percent by 2040, and 11 percent by 2045.

2.2.3 Vehicle Fleet

ZERO-EMISSION FLEET

Measure MV-1.1: Replace the County's gasoline- and diesel-powered fleet vehicles with zero-emission vehicles.

Quantification assumptions: This measure is based on the County vehicle fleet data provided by the County. It assumes 81 percent electrification of the gasoline-powered vehicle fleet by 2030, and 19 percent by 2040, resulting in 100 percent zero-emission vehicles by 2040. It is assumed the fleet would remain zero-emission through 2045. This measure also assumes the 80 percent of the County's diesel-powered vehicle fleet is zero-emission by 2030, and 20 percent by 2040, held constant through 2045.

2.2.4 Solid Waste

WASTE DIVERSION

Measure MSW-1.1: Increase waste diversion at County facilities.

Quantification assumptions: This measure assumes the diversion rate at County facilities increases from 58 percent to 75 percent in 2030, 2040, and 2045.

Measure MSW-1.2: Increase construction and demolition diversion rates at County construction sites.

Quantification assumptions: This measure is not quantified because emissions associated with construction waste are not included in the municipal GHG emissions baseline or forecast.

2.2.5 Water Supply and Wastewater Treatment

WATER CONSERVATION

Measure MW-1.1: Reduce municipal water consumption.

Quantification assumptions: This measure assumes that upgrades to water fixtures and meters at County buildings and facilities result in water savings of 17 percent by 2030, 24 percent by 2040, and 31 percent by 2045 in indoor water consumption and 6 percent water savings in 2030 through 2045 in outdoor water consumption.

2.2.6 Municipal Conclusion

The total estimated GHG emissions reductions from all municipal operations measures quantified would be 5,855 $MTCO_2e$ in 2030; 4,413 $MTCO_2e$ in 2040; and 4,927 $MTCO_2e$ in 2045. This would result in total municipal operations GHG emissions of 19,095 $MTCO_2e$ in 2030; 18,589 $MTCO_2e$ in 2040; and 17,442 $MTCO_2e$ in 2045. Therefore, the total estimated reductions from all proposed municipal operations GHG reduction measures would not be sufficient to meet 2030, 2040, and 2045 targets of 16,394 $MTCO_2e$, 9,095 $MTCO_2e$, and 5,445 $MTCO_2e$, respectively.

The scale of reductions required to achieve the 2030 and 2040 emissions reduction target and carbon neutrality target for 2045 would require some improvements in the availability and/or cost of near-zero- and zero-emission technologies, as well as potential increased reductions from ongoing State and federal legislative actions that are currently unknown. Progress toward meeting future targets that could be set by the State would be part of the ongoing monitoring and updates to the 2030 MCAP as new legislation or future updates to the State's Climate Change Scoping Plan are adopted.

Figure 2 shows the GHG reductions achieved by the proposed measures, organized by the same sectors used for the measures, as well as the County's progress towards the targets with the proposed GHG reduction measures.

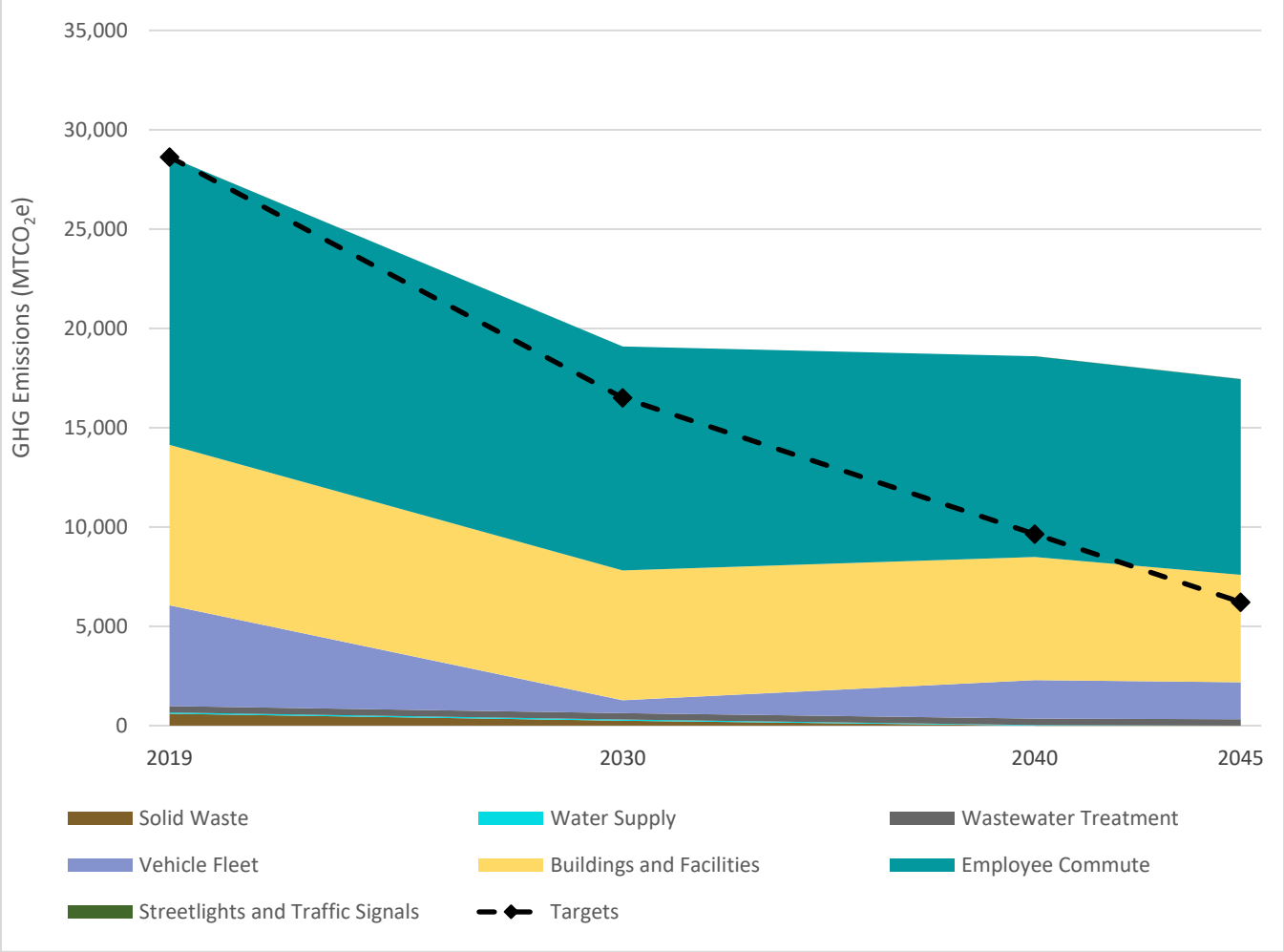

Figure 2 County of Monterey Municipal Operations Legislative-Adjusted BAU Emissions Forecast by Sector with Implementation of Proposed GHG Reduction Measures and Emissions Reduction Targets: 2030, 2040 and 2045

3 CLIMATE CHANGE ADAPTATION

3.1 ADAPTATION MEASURES

Climate change adaptation planning aims to enhance the resilience of communities to climate change impacts through analyzing jurisdiction-specific climate-related vulnerabilities and developing strategies to respond to and prepare for current and future impacts. Improving community resilience in the context of climate change, inherently, can encompass a broad array of strategies. As such, the adaptation strategies and measures developed for the CCAAP are presented below and organized by focus area, which includes Populations and Public Health, Food and Agriculture, Economy, Emergency Management and Planning, and Infrastructure.

3.1.1 Populations and Public Health

Measure APH-1.1: Develop community outreach and education initiatives related to natural hazard preparedness.

Measure APH-1.2: Improve public health in the context of climate change.

3.1.2 Food and Agriculture

Measure AFA-1.1: Support and incentivize climate resilience in the agricultural sector.

Measure AFA-1.2: Combat food insecurity.

3.1.3 Economy

Measure AE-1.1: Enhance and protect Monterey County's nature-based tourism sector.

Measure AE-1.2: Coordinate with local and regional partners to support business and economic resiliency.

3.1.4 Emergency Management and Planning

Measure AEP-1.1: Revise emergency management plans, programs, and activities to account for changing hazard profiles and their associated impacts.

Measure AEP-1.2: Prioritize making emergency services and adaptation planning more accessible and equitable.

3.1.5 Infrastructure

Measure AI-1.1: Improve energy sector resilience.

Measure AI-1.2: Improve water and wastewater sector resilience.

Measure AI-1.3: Improve resilience of residential and nonresidential buildings.

Measure AI-1.4: Protect vulnerable transportation infrastructure, services, and systems.

Measure AI-1.5: Expand green space, utilize green infrastructure and nature-based solutions, and invest in local parks.

REFERENCES

AASHTO. *See* American Association of State Highway and Transportation Officials.

American Association of State Highway and Transportation Officials. 2013 (May). *Commuting in America 2013: The National Report on Commuting Patterns and Trends*. Available: https://traveltrends-dev.transportation.org/wp-content/uploads/sites/62/2019/07/B2_CIA_Role-Overall-Travel_web_2.pdf. Accessed June 20, 2021.

California Air Pollution Control Officers Association. 2010. *Quantifying Greenhous Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*. Available. http://www.capcoa.org/wp-content/uploads/downloads/2010/09/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed June 24, 2021.

———. 2021 (August). *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity Designed for Local Governments, Communities, and Project Developers*. Available: http://airquality.org/ClimateChange/Documents/Handbook%20Public%20Draft_2021-Aug.pdf. Accessed September 28, 2021.

California Air Resources Board. 2014 (May). 2020 BAU Emissions by Scoping Plan Category. Available: https://ww3.arb.ca.gov/cc/inventory/data/tables/2020_bau_forecast_by_scoping_category_2014-05-22.pdf. Accessed June 29, 2021.

———. 2017. California's 2017 Climate Change Scoping Plan. Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed June 29, 2021.

———. 2020. California Greenhouse Gas Emission Inventory – 2020 Edition. Available: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed June 20, 2021.

———. 2021 (April). Revised Draft 2020 Mobile Source Strategy. Available: https://ww2.arb.ca.gov/sites/default/files/2021-04/Revised_Draft_2020_Mobile_Source_Strategy.pdf. Accessed July 9, 2021.

CAPCOA. *See* California Air Pollution Control Officers Association.

CARB. *See* California Air Resources Board.

City of Milpitas. 2021. *Trail, Pedestrian, and Bicycle Master Plan: Public Draft Plan February 2021*. Available: https://milpitasplanreview.altaplanning.site/#/. Accessed June 12, 2021.

ENGIE Services U.S., Inc. 2020 (October). *Comprehensive Energy Analysis Report: City of Milpitas Guaranteed Energy and Water Savings Program.* Accessed June 20, 2021.

ENGIE. *See* ENGIE Services U.S., Inc.

Greater Monterey County. 2018. *Integrated Regional Water Management (IRWM) Plan for the Greater Monterey County Region*. Available: Microsoft Word - 01 Cover, Acknowledgements, TOC, Acronyms_Sep 2018.docx (greatermontereyirwmp.org). Assessed December 15, 2022.

Mozingo, L. 2021. *Zero-Carbon Buildings in California: A Feasibility Study*. Prepared by the Center for Resource Efficient Communities and the Center for the Built Environment, U.C. Berkeley. Prepared for the California Air Resources Board and the California Environmental Protection Agency.