CHAPTER 3

Greenhouse Gas Reduction Measures

3 GREENHOUSE GAS REDUCTION MEASURES

This chapter presents a set of greenhouse gas (GHG) reduction strategies, measures, and actions that will reduce emissions across all sectors to achieve countywide GHG reduction targets. Specifically, it includes the following:

- A description of the GHG reduction framework and the applicability of the GHG reduction strategies, measures, and actions across local jurisdictions within Napa County (hereinafter referred to as "Napa County Jurisdictions" when pertaining to the collective government entities of the County of Napa, the Cities of American Canyon, Calistoga, Napa, and St. Helena, and the Town of Yountville), as detailed in **Section 3.1**;
- An overview of the GHG reduction potential of the quantified measures and a discussion of the most effective measures, presented in **Section 3.2**;
- A detailed assessment of the individual GHG reduction measures, both quantitative and qualitative, including estimated GHG reductions, supporting actions, potential implementation partners, and co-benefits, analyzed in **Section 3.3**.

3.1 REGIONAL GREENHOUSE GAS REDUCTION FRAMEWORK

The plan for reducing GHG emissions across Napa County is based on a policy framework that includes **strategies, measures, and actions**.

- **Strategies** are broadly stated goals for reducing GHG emissions within a given GHG emissions sector.
- **Measures** are the specific objectives or policies that need to be achieved and implemented under each strategy to reduce GHG emissions.
- **Actions** are the more detailed steps that various actors will take to implement the GHG reduction measures.

This framework aligns with the GHG inventory's sectors, like building energy and transportation. Each strategy has several measures, which include estimates of GHG reductions that would be achieved for quantifiable GHG reduction measure, and each measure has specific actions that jurisdictions will take to implement the measure.

Across the six emissions sectors, 21 different GHG reduction strategies are supported by 46 measures and 107 actions. The measures are organized by emissions sector and identified by a unique set of letters and numbers corresponding to each emissions sector (e.g., BE-1 for the first measure under the building energy emissions sector).

The GHG reduction measures reduce emissions from human activities (e.g., building energy use and transportation), and enhance carbon storage (e.g., carbon farming and restoring wildfire-affected areas). As discussed in **Chapter 2**, the GHG reduction targets established for this Napa County Regional Climate Action and Adaptation Plan (RCAAP) include a 42 percent reduction in emissions below 2019 levels by 2030 and 85 percent by 2045, with a goal of carbon neutrality by 2045. Measures that increase carbon sequestration will only count toward the 2045 carbon neutrality goal. Both sets of measures—those that reduce human-caused emissions and those that sequester carbon—will help achieve overall GHG reduction goals.

The GHG reduction framework is designed for countywide application, and many measures will be applied and implemented consistently across all Napa County Jurisdictions, addressing broad issues and emissions sources that are shared across multiple jurisdictions. However, some GHG reduction measures do not apply uniformly across all jurisdictions and only apply to specific local contexts and needs. For example, measures focusing on open space and agricultural lands may be pertinent primarily to the unincorporated area. By recognizing these distinctions, the RCAAP ensures that each jurisdiction can effectively contribute to the overall GHG reduction goals while addressing their unique challenges and opportunities.

Each measure includes at least one or more actions identifying the implementation mechanisms and specific steps the Napa County Jurisdictions will take to implement the measure, such as developing and adopting ordinances, programs, partnerships, and ongoing outreach and education. Short- and long-term actions are included under each measure to facilitate implementation. Short-term actions are designed to be completed within five years of the RCAAP's adoption. Long-term actions ensure measures meet their long-term goals by maintaining funding, increasing participation, or adjusting for changes in local or regulatory circumstances. Additional implementation details for all GHG reduction measures are included in **Chapter 6**.

3.2 OVERVIEW OF GREENHOUSE GAS REDUCTION MEASURES ANALYSIS

A total of 46 GHG reduction measures will lower emissions from all sectors evaluated in the GHG emissions inventory, including on-road transportation, building energy use, off-road equipment, agriculture, solid waste, and water and wastewater. The GHG reduction potential of the measures was quantified for 17 of the 46 measures. The remaining measures were not quantified for one or more reasons, including lack of available data or quantitative methods, the qualitative nature of some measures, uncertainty regarding the effectiveness of some measures, or limitations on local jurisdictions' control over the impact of the measure (e.g., education, encouragement, supporting local partners). The GHG reduction measures aim to reduce human-caused emissions and increase carbon sequestration to achieve the 2030 and 2045 targets, as well as the 2045 carbon neutrality goal. If all GHG reduction measures are implemented as planned and regional growth aligns with projections, the reductions should meet both the 2030 and 2045 targets and the 2045 carbon neutrality goal. Actual reductions may be greater, as many measures are not quantified and could have additional reduction potential.

Table 3.1 summarizes the 46 GHG reduction measures along with any estimated annual reductions in 2030, 2035, and 2045, organizing them by sector and strategy. The annual estimated GHG reductions are shown relative to future forecasted emissions in each respective year (e.g., a 1,000 metric tons of carbon dioxide equivalent [$MTCO_2e$] reduction in 2030 would be subtracted from the forecasted emissions in 2030). Emissions reductions from increased carbon sequestration are assumed to lower total countywide emissions across all sectors. Table 3.1 also shows that the GHG reduction measures, combined, will meet and exceed estimated reductions compared to the 2030 and 2045 targets and 2045 carbon neutrality goal. The quantification assumptions and methods used to estimate the emissions reductions are discussed in **Appendix F**.

Table 3.1 Greenhouse Gas Emissions Reductions by Measure and Strategy ($MTCO_2e$)

Measure ID	Strategy/Measure Title	2030	2035	2045
	Strategy: Clean and Efficient Energy Use in Existing Buildings			
BE-1	Retrofit Existing Buildings to Zero Carbon	38,703	57,957	36,412
BE-2	Energy Audits for Existing Non-Residential Buildings	N/A	N/A	N/A
BE-3	Increase Renewable Energy Generation	1,875	3,510	0
BE-4	Increase Sustainable Winery Certification	N/A	N/A	N/A
	Strategy: Zero Carbon Development			
BE-5	Decarbonize New Buildings	19,418	18,428	21,963
	Strategy: Energy Education, Awareness, and Behavior Change			
BE-6	Empower Community to Reduce Building Energy Emissions	N/A	N/A	N/A
	Strategy: Low Vehicle Miles Traveled			
TR-1	Reduce Vehicle Miles Traveled Countywide	N/A	N/A	N/A
	Strategy: Reduce Commercial VMT			
TR-2	Reduce Winery Wastewater Hauling Emissions	520	415	215
	Strategy: Zero Carbon Fuels			
TR-3	Expand Electric Vehicle Charging Infrastructure	N/A	N/A	N/A
TR-4	Leverage New Development to Support Zero-Emission Vehicles	N/A	N/A	N/A
TR-5	Increase Municipal Zero-Emission Vehicle Adoption	N/A	N/A	N/A
TR-6	Increase Commercial Zero-Emission Vehicle Adoption	N/A	N/A	N/A
TR-7	Increase Residential Zero-Emission Vehicle Adoption	N/A	N/A	N/A
TR-8	Restrict Development of New Fossil Fuel Pumps	N/A	N/A	N/A
TR-9	Expand Renewable Diesel Availability	17,830	36,228	43,785
	Strategy: Active Transportation			
TR-10	Implement the Active Transportation Plan	1,829	1,708	748
	Strategy: Transportation Demand Management (TDM)			
TR-11	Expand Transportation Demand Management Programs	3,689	2,351	673
TR-12	Fund Local Transportation Infrastructure Improvements	N/A	N/A	N/A

Measure ID	Strategy/Measure Title	2030	2035	2045
	Strategy: Visitor TDM			
TR-13	Reduce Vehicle Miles Traveled of Visitors to Napa County	N/A	N/A	N/A
	Strategy: Parking			
TR-14	Reduce or Eliminate Parking Requirements	N/A	N/A	N/A
	Strategy: Transportation Education			
TR-15	Empower Community to Choose Active Transportation Options	N/A	N/A	N/A
	Strategy: Electrification and Clean Alternatives			
OF-1	Reduce Landscaping-Related Emissions	290	149	12
OF-2	Zero-Emission Loading Docks	271	541	820
OF-3	Zero Carbon Construction Equipment - Community	0	5,944	10,221
OF-4	Zero Carbon Construction Equipment - Municipal	236	472	472
	Strategy: Promote Zero Waste			
SW-1	Increase Solid Waste Diversion	47,342	56,974	68,072
SW-2	Reduce Construction and Demolition Waste	N/A	N/A	N/A
SW-3	Waste Education and Awareness	N/A	N/A	N/A
	Strategy: Reduce Landfill Emissions			
SW-4	Increase Landfill Methane Capture Capacity	93,048	98,772	104,985
SW-5	Support Increased Methane Capture Efficiency at Regional Landfills	N/A	N/A	N/A
SW-6	Support Waste-to-Energy Facilities	N/A	N/A	N/A
	Strategy: Wastewater Treatment			
WW-1	Reduce Methane Emissions from Wastewater Treatment Plants	32,739	43,227	45,412
	Strategy: Promote Recycled Water			
WW-2	Explore Recycled Water Opportunities	N/A	N/A	N/A
	Strategy: Water Use Efficiency Conservation			
WW-3	Reduce Residential Water Use	N/A	N/A	N/A
WW-4	Prioritize Native Drought Tolerant Plants in Municipal Landscaping	N/A	N/A	N/A
WW-5	Reduce Wasteful Potable Water Use	N/A	N/A	N/A
WW-6	Reduce Public Distribution System Water Loss	N/A	N/A	N/A

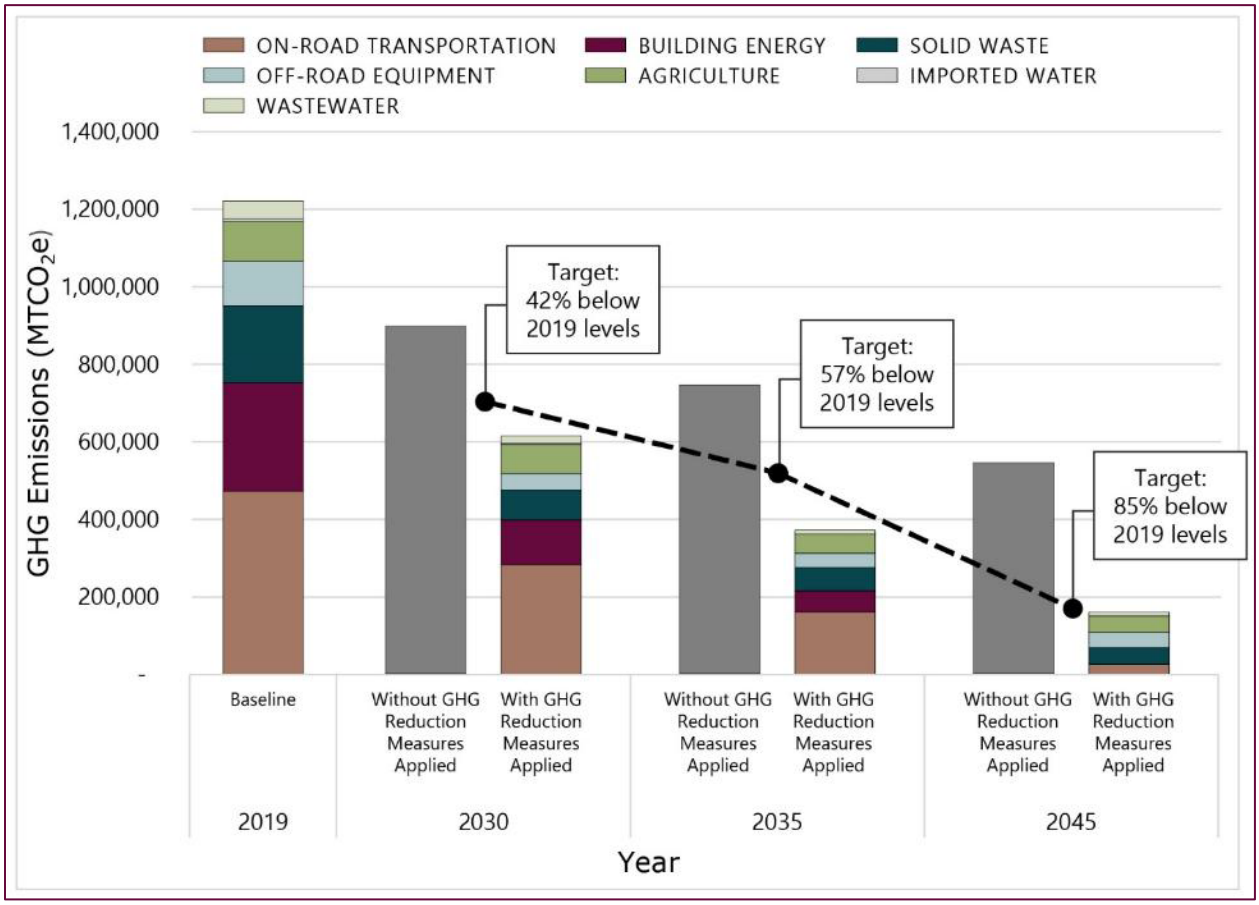
Measure ID	Strategy/Measure Title	2030	2035	2045
	Strategy: Reduce Water Loss			
WW-7	Improve Water Efficiency and Conservation	N/A	N/A	N/A
	Strategy: Reduce GHGs from Agricultural Equipment			
AG-1	Reduce Fossil Fuel Consumption in Field Equipment	25,316	49,020	52,862
AG-2	Promote Sustainable Agricultural Equipment	N/A	N/A	N/A
	Strategy: Increase Carbon Storage			
AG-3	Expand Carbon Farming Practices†	N/A	N/A	N/A
AG-4	Report on Carbon Farming Practices†	N/A	N/A	N/A
AG-5	Expand the Urban Forest†	N/A	N/A	N/A
AG-6	Accelerate Woodland and Forest Habitat Restoration and Stewardship in Rural Areas†	82,201	123,302	164,403
	Strategy: Reduce Emissions from Vineyard Management			
AG-7	Increase Sustainable Vineyard Certification†	20,778	63,556	167,444
	Strategy: Reduce Emissions from Livestock			
AG-8	Enhance Sustainable Livestock Practices	N/A	N/A	N/A
	Strategy: Avoid or Minimize Carbon Sequestration Loss			
AG-9	Avoid or Minimize Carbon Sequestration Losses Associated with Development Projects	N/A	N/A	N/A
	Total Annual Reductions from human-caused sources only	**283,105**	**375,696**	**386,653**
	Reductions Needed to Meet 2030 and 2045 Targets[1]	189,219	227,410	368,542
	On Track to Meet Target?	**Yes**	**Yes**	**Yes**
	Total Annual Reductions from all sources	**386,084**	**562,553**	**718,500**
	Reductions Needed to Meet the 2045 Carbon Neutrality Goal[1]	189,219	227,410	547,378
	On Track to Meet 2045 Carbon Neutrality Goal?	**Yes**	**Yes**	**Yes**

Notes: N/A = not available. Refers to a qualitative measure. MTCO2e = metric tons of carbon dioxide equivalent.
Values may not sum due to rounding.
† Refers to GHG reduction through non-anthropogenic source.
[1] See Table 2.5

Source: **Analysis conducted by Ascent in 2024**.

Figure 3.1 illustrates the impact of the GHG reduction measures on future forecasted emissions relative to the emission reduction targets. With the carbon sequestration-related measures, the combined effects of future legislation with the reductions from the GHG reduction measures would result in substantial reductions in emissions from on-road transportation, building energy, and agriculture. The majority of these reductions are attributable to measures that reduce solid waste emissions, retrofit existing buildings, reduce wastewater treatment emissions, and encourage the use of renewable diesel.

Figure 3.1 Estimated Greenhouse Gas Emissions With and Without Measures Applied through 2045



Notes: % = percent; GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: **Developed by Ascent in 2025**.

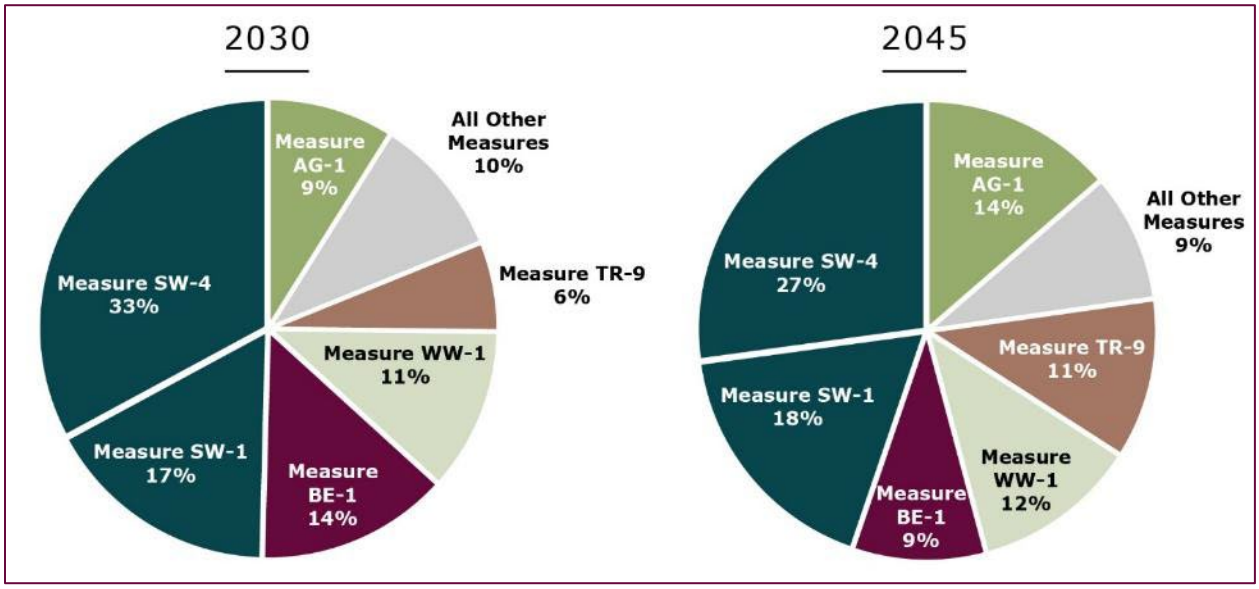
Although 46 GHG reduction measures are included, a few specific measures are projected to account for the vast majority of reductions from human-caused emissions by 2045. These include:

- BE-1: Retrofit Existing Buildings to Zero Carbon
- TR-9: Expand Renewable Diesel Availability
- AG-1: Reduce Fossil Fuel Consumption in Field Equipment

- SW-1: Increase Solid Waste Diversion
- SW-4: Increase Landfill Methane Capture Capacity
- WW-1: Reduce Methane Emissions from Wastewater Treatment Plants

Figure 3.2 illustrates the six measures' percent contribution to the total annual reductions by percent of total reductions from human-caused emissions. As shown in the pie charts, SW-1 and SW-4, which reduce emissions through increasing waste diversion from landfills and limiting fugitive methane (CH_4) emissions from landfills, together represent about half of the total reductions from across all GHG reduction measures addressing human-caused emissions, emphasizing the significant role of the solid waste sector in aiding the county to achieve its 2030 and 2045 targets. The remaining measures account for the other half of the reductions. Altogether, the six measures account for approximately 91 percent of total emissions reductions in 2045.

Figure 3.2 Percent Breakdown of Greenhouse Gas Emissions Reductions by Measure for 2030 and 2045



Note: The total GHG emissions reductions from all measures for 2030 and 2045 are 283,105 $MTCO_2e$ and 386,653 $MTCO_2e$, respectively.

Source: **Developed by Ascent in 2025**.

Solid waste measures are key to reducing future emissions, as solid waste is expected to account for a larger share of the county's emissions by 2045. Current regulations are set to cut building energy and transportation emissions by about 80 percent from 2019 levels. However, solid waste emissions are only scaled up by the anticipated change in population, making solid waste nearly 40 percent of emissions in 2045, up from 16 percent in 2019. The solid waste measures also significantly reduce CH_4, a harmful SLCP with a much higher global warming potential than carbon dioxide (CO_2).

While short-lived climate pollutants (SLCPs) are not included in the countywide GHG inventory, many GHG reduction measures indirectly reduce them, especially methane (CH_4). CH_4 is a potent GHG with almost 28 times the warming potential of CO_2 in the 100-year term and around 80 times in the 20-year term, according to the Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report. Measures that lower transportation-related emissions (e.g., TR-3, TR-10, TR-11) and those that reduce fugitive emissions from landfills contribute to significant CH_4 reductions.

Carbon Sequestration Measures

The GHG reduction measures that have the potential to increase carbon sequestration include:

- AG-3: Expand Carbon Farming Practices
- AG-4: Report on Carbon Farming Practices
- AG-5: Expand the Urban Forest
- AG-6: Restore Woodland and Forest Habitat
- AG-7: Increase Sustainable Vineyard Certification

Of these measures, only AG-6 and AG-7 are quantified. AG-6 increases carbon storage and sequestration by restoring wildfire-affected areas, while AG-7 does so through carbon farming and sustainability efforts at vineyards. Combined, AG-6 and AG-7 account for over 330,000 $MTCO_2e$ in reductions, or 44 percent of all estimated reductions in 2045. When bundled with other GHG reduction measures, these would help the county meet or exceed its carbon neutrality goal by 2045 and allow additional flexibility to meet the region's carbon neutrality goal by providing a buffer for future variability and uncertainty when implementing the RCAAP.

3.3 INDIVIDUAL GREENHOUSE GAS REDUCTION MEASURES

The following pages detail the individual GHG reduction measures. Each page includes a brief description of the measure; the strategy it is associated with; applicable jurisdictions in which the measure will be implemented; potential implementation partners (e.g., local community-based organizations); estimated GHG reduction potential, if applicable; co-benefits (e.g., public health); and measure objectives. Additionally, specific short- and long-term actions that would be needed to implement each measure are identified. Additional implementation details can be found in **Chapter 6**.

MEASURE BE-1: Retrofit Existing Buildings to Zero Carbon

With Napa County's population expected to grow by 18 percent from 2019 to 2045, existing buildings will constitute most building energy-related emissions in the future. Napa County Jurisdictions will develop and implement energy retrofit programs for existing residential and non-residential buildings to transition 25 percent of existing buildings to zero carbon by 2030 and 100 percent by 2045. These programs include financial incentives, streamlined permitting, and community outreach to facilitate the transition to cleaner energy use.

Strategy
Clean and Efficient Energy Use in Existing Buildings

Applicable Jurisdictions
All

GHG Reduction Potential

2030	38,703 $MTCO_2e$
2035	57,957 $MTCO_2e$
2045	36,412 $MTCO_2e$

Partners

- Bay Area Air District
- Bay Area Regional Energy Network (BayREN)
- Metropolitan Transportation Commission (MTC)/Association of Bay Area Governments (ABAG)
- Pacific Gas and Electric Company (PG&E), Marin Clean Energy (MCE), and other utilities
- Certified Electrical Safety Compliance Professional (CESCP)
- BayREN Codes & Standards
- Chambers of Commerce

Targets

- 25 percent of existing buildings are zero carbon by 2030
- 100 percent of existing buildings are zero carbon by 2045

Co-Benefits

- Cost Savings
- Economic Opportunity
- Energy Security
- Public Health & Wellbeing

SHORT-TERM ACTIONS

BE-1-A: Secure funding to support the implementation of energy efficiency and electrification actions.

BE-1-B: To prepare for building electrification, work with local and regional agencies such as Bay Area Air District, BayREN, MTC/ABAG, PG&E, MCE, or others, to create a pre-electrification program that provides affordable financing or rebates or other incentives, depending on funding available, for electric panel upgrades. Begin by annually identifying buildings with natural gas water heaters or furnaces within 2 years of their average service lifetime, based on dates of original permits. Once identified, reach out to property owners to present the available incentives. Identify if electric panel upgrades are needed to support full building electrification. Also, determine if the building is suitable for on-site renewable energy (e.g., solar) and battery storage. Confirm with PG&E that the electric infrastructure will be able to support widespread or neighborhood-level electrification, and if not, work with PG&E to identify a timeline for upgrades.

BE-1-C: Reach Codes: Work with the CECSP to develop reach codes and associated cost-effectiveness studies that must be met for existing buildings. The reach codes will include the following performance standards or other similar standards that achieve equivalent GHG emission reductions:

i) Existing residential buildings' modeled energy efficiency score must meet or exceed half of the maximum cost-effective score at time-of-retrofit (note: "modeled energy efficiency score" means the building's energy efficiency score as calculated by a CEC-approved compliance software program, such as the California Building Energy Code Compliance [CBECC] software.)

ii) Existing nonresidential buildings must reduce their non-electricity-related emissions by 19 percent by 2030, and 75 percent by 2045.

BE-1-D: Reach Codes: Determine reach code compliance triggers for retrofits, which may be based on one or more metrics such as percent of existing floor area, building permit valuation, or project valuation.

BE-1-E: Reach Codes: Conduct stakeholder outreach with building industry members, contractors, residents, businesses, and other interest groups to present the reach code options and solicit feedback.

BE-1-F: Reach Codes: Adopt an ordinance(s) to implement and enforce the new reach code(s) for existing buildings. Pursuant to new statewide residential building code update limitations in Assembly Bill (AB) 130 (signed into law on June 30, 2025), a residential reach code may not be adopted and enforced until in 2031; however, nonresidential reach code adoption and enforcement may proceed starting in 2026.

BE-1-G: Reach Codes: Conduct training for permitting staff to understand the reach code requirements for existing buildings and how compliance will be demonstrated.

BE-1-H: Reach Codes: Develop a tracking system for the types of measures implemented to maximize energy efficiency and decarbonization, energy efficiency upgrades, or pre-wiring completed by applicants pursuant to reach code requirements for existing buildings.

BE-1-I: Streamlined Permitting for Electrification: Review the existing permitting processes for building owners seeking to replace fossil-fueled equipment with electric equipment and modify as needed to reduce complexity, cost, and processing time for any required permits.

BE-1-J: Streamlined Permitting for Electrification: Waive or reduce permitting fees for building retrofit projects that convert mixed-fuel buildings to all-electric and cap natural gas lines, to encourage exceedance of existing code requirements. Additionally, waive or reduce penalties/fees for prior non-permitted work that is upgraded for code compliance. Fee reduction may require modification of local fee ordinances.

BE-1-K: Community Outreach and Education: Develop a community outreach program that provides education strategies that enable and encourage energy conservation and gas-to-electric conversions in residential and commercial buildings for space and water heating. Program elements could include developing and/or sharing existing online educational materials targeted to building owners and tenants that are hosted on the jurisdiction's websites on energy efficiency and building electrification; promoting training, fact sheets, information on available incentives, video tutorials, and links to existing content (such as The Switch is On). Educational materials and resources should also be provided as part of routine regulatory processes, such as applying for or renewing licenses or permits. Examples of incentives currently available (and subject to change) include:

i) MCE's Residential and Commercial energy efficiency programs.

ii) Energy Efficient Commercial Buildings Deduction tax credits program (179D).

iii) Homeowner Managing Energy Savings (HOMES) rebate program.

iv) High-Efficiency Electric Home Rebate (HEEHRA) program.

BE-1-L: Develop a revolving loan fund to provide low-interest loans to low-income residents to cover the time-of-replacement/emergency replacement of natural gas water heaters and/or HVAC units with electric options, ensuring that loans can be processed quickly and efficiently with equitable procedural access. Pursue grant funding opportunities to seed the revolving loan fund.

BE-1-M: For non-agricultural and agricultural operations, work with MCE to improve participation in the Commercial Energy Efficiency, Strategic Energy Management (SEM), and Agricultural and Industrial Resource (AIR) programs. Identify barriers that limit the current participation rate (e.g., knowledge about the program, program funding). Develop a plan to address the barriers to the program with the aim to reduce non-residential energy use by 25 percent by 2030 from 2019 levels.

LONG-TERM ACTIONS

BE-1-N: Secure long-term funding to continue offering energy efficiency, electrification, and other net zero carbon rebates based on demand and progress toward the measure goal.

BE-1-O: Provide a sliding schedule of rebates that offers more rebates in the short term and less in the long term, with a sunsetting date that expires unless renewed. The schedule will depend on the amount of funding available.

Continue implementation of the pre-electrification program, adjusting for any improvements needed to increase participation such that 100 percent of buildings have the electric infrastructure to support full electrification.

BE-1-P: Reach Codes: Each jurisdiction will review their existing building reach codes at the release of each triennial building code cycle to ensure that the reach codes do not conflict with new cost-effective electrification pre-wiring and energy efficiency measures, such that the existing building reach codes are in line with the most recent decarbonization guidance and cost-effectiveness data.

BE-1-Q: Continue to streamline permitting and electrification program outreach, making any improvements in light of any challenges presented from implementation of other actions to achieve the goal of 100 percent electrification by 2045.

BE-1-R: For homes not eligible for BayREN/MCE programs, research opportunities to work with local financial institutions (e.g., credit unions, banks) to offer zero or low percent financing for a limited time (e.g., 24 months) or on a sliding scale based on income (e.g., 24 months for income over 50 percent of median, 48 month for income less than 50 percent, with increasing APRs after). Jurisdictions may consider helping to pay for interest for the first two years to fund loans.

MEASURE BE-2: Energy Audits for Existing Non-Residential Buildings

Energy audits provide property owners and operators with insight into the most cost-effective solutions to increase building energy efficiency. Napa County Jurisdictions will require existing non-residential buildings at the time of sale to disclose an energy score based on local energy benchmarks, where available. Jurisdictions will also encourage the development of a local energy benchmarking program. These energy scores would be identified through individual property energy audits that identify opportunities for improving energy efficiency and reducing GHG emissions. These audits will also assist in the implementation of BE-1.

Strategy

Clean and Efficient Energy Use in Existing Buildings

Applicable Jurisdictions

All

GHG Reduction Potential

2030 N/A
2035 N/A
2045 N/A

Partners

- BayREN

Targets

- N/A

Co-Benefits

Cost Savings

Energy Security

SHORT-TERM ACTIONS

BE-2-A: Encourage a local energy benchmarking program, similar to BayREN's Home Energy Score Assessor, for existing non-residential buildings, consistent with regulatory benchmarking programs and existing green building standards to help close the energy efficiency information gap. The benchmarking should develop locally applicable energy score benchmarks by building type and size.

BE-2-B: Require an energy score disclosure at time of listing property sale.

MEASURE BE-3: Increase Renewable Energy Generation

Renewable energy generation, such as on-site solar panels, enables residents and businesses to produce their own electricity, reducing dependency on utility companies. As of 2024, only 14 percent of households in the region have on-site renewable energy generation. Napa County Jurisdictions will collaborate with regional partners and the community to increase renewable energy generation such as solar and wind power at existing land uses to reduce GHG emissions by offering rebates and incentives for renewable energy solutions, including energy storage solutions. Starting in 2026, the jurisdictions aim to have households across the region install on-site renewable energy generation and battery storage every year, until at least 34 percent of households have had installations by 2030 and 59 percent by 2035. This is equivalent to installing these systems on five percent of households annually.

Strategy
Clean and Efficient Energy Use in Existing Buildings

Applicable Jurisdictions
All

GHG Reduction Potential

2030	1,875 $MTCO_2e$
2035	3,510 $MTCO_2e$
2045	N/A

Partners

- Bay Area Air District
- PG&E
- MCE

Targets

- 34 percent of households have on-site renewable energy generation and storage by 2030
- 59 percent of households have on-site renewable energy generation and storage by 2035.

Co-Benefits


Cost Savings


Energy Security

SHORT-TERM ACTIONS

BE-3-A: Collaborate with regional partner agencies and utilities, such as Bay Area Air Quality Management District (Bay Area Air District), PG&E, and MCE to offer rebates and incentives for renewable energy and storage (e.g., solar and battery storage).

BE-3-B: Prioritize outreach to non-residential vs residential property owners according to the contribution by jurisdiction. For example, 75 percent of City A's electricity use is consumed by non-residential customers, while 75 percent of City B's electricity use is consumed by residential customers. Thus, City A should focus on outreach to non-residential customers, while City B focuses on residential customers.

LONG-TERM ACTIONS

BE-3-C: Continue to seek funding to sustain local programs in tandem with retrofit efforts under BE-1.

MEASURE BE-4: Increase Sustainable Winery Certification

As a global center for winemaking with more than 450 wineries, Napa County possesses significant influence over sustainable wine practices and has the potential to lead globally in low-carbon wine production methods. Napa County Jurisdictions will support local winemaking organizations and businesses to reduce GHGs through increasing sustainability certification rates and supporting clean and efficient energy use, while also supporting and enhancing existing programs. Napa County Jurisdictions will target 75 percent of all wineries, new and existing, to have an eligible sustainability certification by 2030 and 90 percent by 2045. Additionally, all jurisdictions will require that all new wineries be certified by 2030.

Strategy

Clean and Efficient Energy Use in Existing Buildings

Applicable Jurisdictions

All

GHG Reduction Potential

2030	N/A
2035	N/A
2045	N/A

Partners

- Napa Green
- California Sustainable Winegrowing Alliance
- Sustainability in Practice (SIP) Certified, or others
- Other sustainable winery certification programs

Targets

- Certify 75 percent of all wineries by 2030.
- Certify 90 percent of all wineries by 2045.
- Starting in 2030, certify 100 percent of new wineries.

Co-Benefits

Economic Opportunity

Ecosystem Health

Energy Security

SHORT-TERM ACTIONS

BE-4-A: County and cities will support sustainability certification of wineries (e.g., Napa Green) to reach a target of 75 percent of wineries certified by 2030.

BE-4-B: Require new wineries, winery retrofits, and winery additions greater than 10 percent of existing square footage to attain sustainability certification.

BE-4-C: Work with sustainability certification entities (e.g., Napa Green) to quantify GHG reductions. Ensure GHG reductions are within the scope of the RCAAP GHG emission inventory and forecast (e.g., production-based emissions).

BE-4-D: Work with sustainability certification programs to determine funding needs for increased certification targets. Examples of eligible certification programs include Napa Green, California Sustainable Winegrowing Alliance, and Sustainability in Practice (SIP). Additional programs may be considered on a case-by-case basis.

LONG-TERM ACTIONS

BE-4-E: Target 90 percent of wineries in the County to become certified in sustainability, including all new wineries, by 2045.

MEASURE BE-5: Decarbonize New Buildings

New building construction offers an opportunity to integrate zero-carbon design, improve energy efficiency and renewable energy use, and maintain comfort. Napa County Jurisdictions will promote zero carbon development by adopting and implementing energy efficiency and renewable energy building reach codes for both residential and non-residential buildings so that 90 percent of energy use from new construction is sourced from zero carbon sources starting in 2030 and, for residential land uses, 97 percent is sourced from zero carbon sources by 2045. It prioritizes energy efficiency, zero carbon energy, and includes the use of low carbon materials to reduce GHG emissions.

Strategy
Zero Carbon Development

Applicable Jurisdictions
All

GHG Reduction Potential

2030	19,418 $MTCO_2e$
2035	18,428 $MTCO_2e$
2045	21,963 $MTCO_2e$

Partners
- MCE
- BayREN
- Bay Area Air District

Targets
- 90 percent of energy use from new residential and non-residential buildings is zero carbon by 2030
- 97 percent of energy use from new residential buildings is zero carbon by 2045

Co-Benefits

Energy Security

Public Health & Wellbeing

SHORT-TERM ACTIONS

BE-5-A: Adopt and implement a regionally-consistent energy efficiency and renewable energy building reach code for new construction of residential and non-residential buildings, including major additions. The code should prioritize energy efficiency first and zero carbon energy second, and require new nonresidential development that cannot meet electricity demand through onsite renewable energy generation and storage to purchase 100 percent carbon-free electricity from MCE. Pursuant to new statewide residential building code update limitations in AB 130 (signed into law on June 30, 2025), a residential reach code may not be adopted and enforced until 2031; however, nonresidential reach code adoption and enforcement may proceed starting in 2026.

BE-5-B: Track progress of state codes and bills related to climate and energy to inform the region's reach code. The California Air Resources Board (CARB) recently recommended that the state adopt mandatory zero-emission residential new construction standards in the 2024 triennial CALGreen code cycle. See California Climate & Energy Collaborative's Legislative Tracker Database as a resource.

BE-5-C: Develop reach codes requiring Low Carbon Concrete and materials with low embodied carbon, such as wood fibers or cellulose insulation. Refer to Marin County's Carbon Concrete Requirements as an example. Pursuant to new statewide residential building code update limitations in AB 130 (signed into law on June 30, 2025), a residential reach code may not be adopted and enforced until 2031; however, nonresidential reach code adoption and enforcement may proceed starting in 2026.

LONG-TERM ACTIONS

BE-5-D: Regularly update the reach code in line with the state's building energy code cycles and legislation. According to BayREN, "If a jurisdiction has a reach code in effect and would like to continue it into the next code cycle, the local process needs to be completed early enough that it can be approved by the California Energy Commission (CEC) before the start of the new code cycle, usually no later than September in the year before the updated code takes effect".

MEASURE BE-6: Encourage Community to Reduce Building Energy Emissions

To support building energy measures, Napa County Jurisdictions will encourage energy efficiency, energy conservation, electrification, and clean energy solutions through increased education, incentives, and partnerships with regional partners, local contractors, and marketing platforms.

Strategy
Energy Education, Awareness, and Behavior Change

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- MCE
- PG&E
- BayREN
- Switch is On
- Local contractors and news outlets
- Community-Based Organizations (CBOs)

Targets
- N/A

Co-Benefits
- Cost Savings
- Economic Opportunity
- Energy Security
- Public Health & Wellbeing

SHORT-TERM ACTIONS

BE-6-A: Increase education, awareness, and access to available rebates and incentives for energy efficiency through radio, social media, and other marketing platforms, gaining the trust and confidence of residents in the program (e.g., comes from trustworthy sources like local leaders).

Provide education on how to improve current energy efficiency (e.g., cleaning refrigerator coils, air sealing, adding insulation). Provide information on incentives/recognition for verified energy reduction.

BE-6-B: Develop a dedicated website for all things electrification and renewable energy for residents and businesses in Napa County. The website should contain user-friendly resources identifying incentives, rebates, and programs available to the residents and business owners in the region. Ensure that the websites of each jurisdiction in the county have links that redirect to the dedicated website or app.

BE-6-C: Partner with contractors to inform customers about Napa County's rebate website/app at the time of replacement or remodel. Work with local news outlets to broadcast updates to the available rebates for Napa County residents and businesses and promote the program.

BE-6-D: Use partnerships to promote appliance upgrades to energy-efficient technologies and products through campaigns targeted at residents and local businesses, ENERGY STAR® appliance change-out programs, and promote incentives (e.g., giveaways, federal/state/utility rebates).

BE-6-E: Promote alternatives to natural gas in all commercial sectors.

BE-6-F: Promote use of electric cooking appliances in commercial kitchens (e.g., benefits of induction cooktops). Use resources such as https://frontierfstc.com/.

BE-6-G: Create a pilot or a series of exhibitions for local restaurants to demonstrate the effectiveness and benefits of induction cooktops. Work with restaurants across all tiers to demonstrate applicability at all levels and cuisines.

LONG-TERM ACTIONS

BE-6-H: Evaluate the effectiveness of short-term outreach and adjust and continue actions, as needed.

BE-6-I: Evaluate regionwide transition away from natural gas use and increase or adjust outreach, as needed.

MEASURE TR-1: Reduce Vehicle Miles Traveled Countywide

On-road transportation accounts for approximately 30 to 40 percent of Napa County's emissions and will continue to do so through 2045. To ensure that land use planning is consistent with the RCAAP emission reduction goals for transportation, Napa County Jurisdictions will work with Napa Valley Transportation Authority (NVTA) to reduce vehicle miles traveled (VMT) and associated GHG emissions. Starting with a set of Transit First policies developed in conjunction with NVTA, each jurisdiction will incorporate VMT reduction targets and related policies in local and countywide planning, such as via general plans, transportation plans, active transportation plans, and transit plans.

Strategy
Low Vehicle Miles Traveled

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- NVTA

Targets
- N/A

Co-Benefits

Public Health & Wellbeing

Quality of Life

SHORT-TERM ACTIONS

TR-1-A: Work with NVTA to develop and adopt a set of Transit First policies for all jurisdictions. These policies are intended to address mobility needs along key arterials & collectors served by transit, and should be incorporated into updates of relevant General/Specific Plans. In land use project planning, a "Transit First" policy prioritizes the enhancement of quality access to nearby transit amenities to encourage visitors, workers, and residents to utilize transit as a means of travel to and from a location. The Transit First policies should ensure that development projects located within ¼ mile of a transit line integrate transit service and associated connectivity requirements (e.g., passengers do not have to travel through private property to access transit) as part of the entitlement process. This may include project-level improvements and/or jurisdiction-level improvements outside the project area, such as lighting design criteria, bus pull-outs, sidewalk gap closures, shelters, and planning for future Transit Signal Priority (TSP) implementation. As part of the Transit First policies, require development projects to ensure that any building and development features (e.g., off-street parking, building front entrances, sidewalks, landscaping, buildings, walls or barriers, drainage areas) do not obstruct or unnecessarily elongate access to transit amenities (e.g., bus stops, loading zones) or access to mobility-as-a-service (MAAS) parking areas.

TR-1-B: Support expanded analysis of VMT for passenger and commercial vehicle trips in NVTA Travel Behavior Study.

LONG-TERM ACTIONS

TR-1-C: Implement VMT reduction strategies (Actions) as part of discretionary land-use and community development efforts. During the development of each travel behavior study, request that NVTA identify the greatest sources of VMT (such as between specific locations or by trip purpose) and work with local jurisdictions to develop strategies to mitigate those sources of VMT.

MEASURE TR-2: Reduce Winery Wastewater Hauling Emissions

Between 2019 and 2023, Napa County hauled between 12 to 20 million gallons of winery wastewater annually to wastewater treatment facilities at East Bay Municipal Utility District (EBMUD). Napa County Jurisdictions will reduce GHG emissions associated with wastewater transportation by working with regional partners to study winery wastewater demands across the county to increase local winery wastewater treatment capacity and encourage the use of zero-emission vehicles (ZEVs) to hold-and-haul wastewater transport. The jurisdictions intend to address this in two ways: 1) divert five percent of exported winery wastewater to local treatment facilities by 2030, 10 percent by 2035, and 20 percent by 2045 compared to 2019 levels and 2) ensure that the remaining exported wastewater is fueled by either renewable diesel or electric or other zero-carbon alternatives starting in 2030.

Strategy
Reduce Commercial VMT

Applicable Jurisdictions
All

GHG Reduction Potential
2030 520 $MTCO_2e$
2035 415 $MTCO_2e$
2045 215 $MTCO_2e$

Partners
- Bay Area Air District
- Napa Green
- California Sustainable Winegrowing Alliance
- Sustainability in Practice (SIP) Certified, or others

Targets
- Five percent of exported winery wastewater is diverted for local treatment by 2030 compared to 2019 levels
- 10 percent of exported winery wastewater is diverted for local treatment by 2035 compared to 2019 levels
- 20 percent of exported winery wastewater is diverted for local treatment by 2045 compared to 2019 levels
- 85 percent of exported wastewater shipping is fueled by renewable diesel and 15 percent by zero-carbon alternatives by 2030.
- 25 percent of exported wastewater shipping is fueled by renewable diesel and 75 percent by zero-carbon alternatives by 2045.

Co-Benefits
- Cost Savings
- Economic Opportunity
- Ecosystem Health

SHORT-TERM ACTIONS

TR-2-A: Identify funding to conduct a study on winery wastewater treatment demands to better understand winery wastewater treatment method and location. The study would determine cost-effective solutions for reducing winery wastewater treatment hauling emissions for the region (e.g., on-site winery wastewater management or pre-treatment, zero-emission vehicles (ZEVs) for hold and haul trucks, a new or expansion of existing municipal wastewater facility(s)).

TR-2-B: Partner with Napa Green, California Sustainable Winegrowing Alliance, SIP Certified, or other comparable programs to help gather data.

LONG-TERM ACTIONS

TR-2-C: Coordinate with the Climate Action Committee (CAC) to consider implementation options and/or seek funding for the solution(s) recommended by the study.

TR-2-D: Continue to monitor winery wastewater treatment trends to identify opportunities to reduce hauling VMT.

MEASURE TR-3: Expand Electric Vehicle Charging Infrastructure

Easily accessible electric vehicle (EV) charging infrastructure is essential to support the transition to EVs and reduce emissions from fossil fuels. Napa County Jurisdictions will work with MTC's Regional Transportation Electrification Assistance Program and Bay Area Air District's Charge! Program to increase EV charging station availability across the county, facilitating the county's transition to ZEVs and reducing GHG emissions. The jurisdictions will collaborate with MTC, NVTA, and others to identify optimal locations for charging infrastructure and incentivize private parking lot owners to install EV chargers.

Strategy
Zero Carbon Fuels

Applicable Jurisdictions
All

GHG Reduction Potential

2030	N/A
2035	N/A
2045	N/A

Partners

- MTC
- NVTA
- Bay Area Air District

Targets

- At least 10 percent of existing private parking spaces have electric vehicle supply equipment (EVSE), and another 10 percent are EV-ready by 2030.

Co-Benefits


Economic Opportunity


Public Health & Wellbeing


Quality of Life

SHORT-TERM ACTIONS

TR-3-A: Work with MTC, Bay Area Air District, and other local partners and available local EV charging programs to identify areas and opportunities to install chargers for medium and heavy-duty fleet (e.g., depots, charging en route, fleet managers)

TR-3-B: Analyze existing private parking lots and educate/incentivize owners to take advantage of funding opportunities such that at least 10 percent of their spaces have EVSE and at least an additional 10 percent are EV-ready.

LONG-TERM ACTIONS

TR-3-C: Review the requirements every 5 years and update the requirements to increase the percentage of parking lots with EV chargers and the number of EVSE in the lots.

MEASURE TR-4: Leverage New Development to Support Zero-Emission Vehicles

New developments have the unique opportunity to integrate EV charging and hydrogen fueling infrastructure without costly renovations. Napa County Jurisdictions will support the adoption of ZEVs in new development by implementing expedited permitting for zero-carbon fueling stations (e.g., renewable diesel, EV charging), establishing hydrogen fueling stations, and requiring EV-capable parking spaces in new constructions, thus promoting sustainable transportation infrastructure.

Strategy
Zero Carbon Fuels

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- NVTA
- Hydrogen Fuel Cell Partnership
- BayREN

Targets
- Install at least one hydrogen fueling station by 2030
- Require 50 percent of parking spaces in new developments to be EV-capable by 2030
- Require that multi-family units with more than four units to have a minimum of one shared charger or 10 percent of spaces to have EV chargers, whichever is greater

Co-Benefits


Economic Opportunity


Public Health & Wellbeing


Quality of Life

SHORT-TERM ACTIONS

TR-4-A: Work with the Hydrogen Fuel Cell Partnership and NVTA to evaluate the need for stations based on the State's forecasted growth of hydrogen vehicles. In their 2024 staff report, CEC staff anticipates that 119 hydrogen fueling stations will be built statewide under current public and private investments to support 180,000 fuel cell electric vehicles (FCEVs).

TR-4-B: Identify locations where hydrogen fueling stations could be built (e.g., at existing gas stations, rest stops, major tourist centers).

TR-4-C: Install at least one hydrogen station in the region by 2030.

TR-4-D: Adopt an ordinance that expedites scaled permitting of fuel stations that offer renewable fuels.

TR-4-E: Require expedited EV charging permitting in all jurisdictions.

TR-4-F: Require 50 percent of parking spaces in new development to be EV-capable by 2030. CALGreen defines "EV-Capable" as: "… spaces [that] include the electrical panel capacity [e.g., dedicated breaker] and raceway (conduit) to support future installation of an EV charging station." (Title 24, Part 11 (CALGreen), Chapter 5, Section 5.106.5.3.2).

TR-4-G: Adopt an EV charging station reach code that establishes minimum EV charging standards for all new residential and nonresidential development. Require that any new construction or major renovations at multi-family units of greater than four units have at least a shared charger or 10 percent of spaces to have chargers (not just be EV-capable), whichever is greater, as consistent with the Voluntary CALGreen Building Code.

LONG-TERM ACTIONS

TR-4-H: Provide incentives for new hydrogen fueling installations in the identified locations noted in the short-term actions (e.g., expedited or discounted permitting, high-quality signage). Reassess demand for hydrogen fueling infrastructure by 2030 and adjust the number of stations accordingly to meet demand.

TR-4-I: Evaluate the feasibility of the ordinance at least once every five years and update, as necessary.

TR-4-J: Review the requirements at least once every five years and make requirements more stringent if feasible, in accordance with the recommendations set forth in the Voluntary CALGreen Building Code.

MEASURE TR-5: Increase Municipal Zero-Emission Vehicle Adoption

Municipalities that have ZEV fleets lead their communities in promoting the adoption of ZEVs. Napa County Jurisdictions will transition municipal vehicle fleets to ZEV by setting targets and policies that support adopting ZEVs and using carbon-neutral fuels. By 2030, all municipalities in the county are required to purchase ZEVs for any new light- and medium-duty municipal fleet vehicles. By 2035, all heavy-duty municipal fleet vehicles must either be fueled by a carbon-neutral fuel (e.g., renewable diesel) or electricity. With the help of funding partners such as MTC and the Bay Area Air District, these requirements will reduce GHG emissions and promote cleaner air through strategic fleet management and partnerships.

Strategy
Zero Carbon Fuels

Applicable Jurisdictions
All

GHG Reduction Potential

2030	N/A
2035	N/A
2045	N/A

Partners

- Bay Area Air District
- MTC

Targets

- 100 percent of new light- and medium-duty municipal vehicle fleet purchases must be ZEVs by 2030.
- 100 percent of heavy-duty municipal fleet vehicles must use renewable diesel or electricity as a primary fuel source by 2035.

Co-Benefits

- Cost Savings
- Economic Opportunity
- Public Health & Wellbeing
- Quality of Life

SHORT-TERM ACTIONS

TR-5-A: Adopt a policy to support the requirements of Advanced Clean Fleet regulations as they relate to municipal fleets. By 2030, 100 percent of new light and medium-duty municipal vehicle fleet purchases must be ZEV. By 2035, 100 percent of diesel-powered heavy-duty municipal fleets must use carbon-neutral fuel (e.g., renewable diesel) or electricity as a regular source of fuel, with exceptions for emergencies (e.g., difficult access during wildfires).

TR-5-B: Work with municipal fleet operators across the region to identify and mitigate any barriers that hinder ZEV adoption (e.g., cost, infrastructure concerns, workforce training).

TR-5-C: Partner with the Bay Area Air District, MTC, and others to pursue funding for EV deployment projects in municipalities, including finding resources and funding to procure ZEV heavy-duty fleet (e.g., fire trucks), as feasible. Apply for grants from MTC's Public Fleet Electrification Planning Assistance Program.

LONG-TERM ACTIONS

TR-5-D: Review and address any barriers to achieving the 2030 targets and adjust the target if needed.

MEASURE TR-6: Increase Commercial Zero-Emission Vehicle Adoption

Commercial transportation emissions, such as heavy-duty diesel-powered trucks, account for more than a fifth of the county's emissions. Napa County Jurisdictions will support local efforts to increase the adoption of ZEVs in commercial fleets by providing information on incentives, funding for EV rebates, and requiring replacement of fossil-fueled vehicles in favor of ZEV or carbon-neutral fuel alternatives.

Strategy
Zero Carbon Fuels

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Chamber of Commerce
- Napa County Farm Bureau
- Local Commercial Fleet Operators
- Bay Area Air District

Targets
- N/A

Co-Benefits
- Cost Savings
- Economic Opportunity
- Public Health & Wellbeing
- Quality of Life

SHORT-TERM ACTIONS

TR-6-A: Conduct outreach to local commercial fleet operators, including the agriculture/wine industry, tour companies, contractors, and delivery services, to provide information on existing incentives, support the retirement of older vehicles, and requirements to replace fossil-fueled vehicles or engines with ZEV or carbon-neutral fuel alternatives.

TR-6-B: Educate and provide resources to commercial fleet operators, vehicle manufacturers, or leasing companies regarding available funding for fleet owners for EV rebates from all available sources (e.g., federal, state, local) for both new and used EVs.

LONG-TERM ACTIONS

TR-6-C: Review and address any barriers to achieving the short-term actions and adjust if needed.

MEASURE TR-7: Increase Residential Zero-Emission Vehicle Adoption

As of 2023, only about four percent of light-duty vehicles registered in the county are ZEVs (CEC 2023). Although this is on par with the state average, Napa County Jurisdictions will increase the adoption of ZEVs among residents by providing additional funding and incentives, such as for those who do not meet the income criteria of existing programs. Jurisdictions will review the Bay Area Air District's Clean Cars for All program and other similar local programs to increase available funding for regional residents for assistance in purchasing either a new or used ZEV.

Strategy
Zero Carbon Fuels

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Bay Area Air District

Targets
- N/A

Co-Benefits
- Cost Savings
- Economic Opportunity
- Public Health & Wellbeing
- Quality of Life

SHORT-TERM ACTIONS

TR-7-A: Partner with the Bay Area Air District and others to pursue funding for residents for additional EV rebates beyond what is currently offered by the federal and state governments, for both new and used ZEVs.

TR-7-B: Evaluate income limits and consider providing additional incentives for residents who do not meet the income criteria of existing incentives.

LONG-TERM ACTIONS

TR-7-C: Continue short-term actions, and evaluate and adjust incentive programs as needed.

MEASURE TR-8: Restrict Development of New Fossil Fuel Pumps

Currently, nearly all jurisdictions except the City of Napa and Napa County have permanent bans on new fossil fuel pumps. The City of Napa is considering further restrictions on new and/or expanded fossil fuel service stations as part of the comprehensive zoning code update. To uniformly discourage continued use of fossil fuels and encourage the transition to zero-carbon or carbon-neutral fuels across the county, the Napa County Jurisdictions will adopt consistent ordinances across all jurisdictions to permanently ban or restrict the development of new fossil fuel pumps.

Strategy
Zero Carbon Fuels

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- N/A

Targets
- N/A

Co-Benefits


Economic Opportunity


Public Health & Wellbeing


Quality of Life

SHORT-TERM ACTIONS

TR-8-A: Adopt an ordinance in all jurisdictions that permanently bans or phases out the development of new and existing fossil fuel pumps by transitioning toward non-carbon based fuels.

LONG-TERM ACTIONS

TR-8-B: Evaluate the feasibility of the ordinance at least once every five years and update it, as necessary.

MEASURE TR-9: Expand Renewable Diesel Availability

Renewable diesel (R99 or R100) is a carbon-neutral fuel derived from renewable biogenic sources and chemically identical to conventional diesel, allowing it to be used as a direct fuel replacement in diesel vehicles. In California, the sale of renewable diesel has recently increased exponentially. In 2023, renewable diesel sales were nearly double those in 2021 and triple those in 2019 (USDA 2024). Napa County Jurisdictions will increase the availability of renewable diesel in the county by incentivizing its sale, with a target of having at least five stations offering renewable diesel (R99 or R100) by 2030.

Strategy
Zero Carbon Fuels

Applicable Jurisdictions
All

GHG Reduction Potential
2030 17,830 $MTCO_2e$
2035 36,228 $MTCO_2e$
2045 43,785 $MTCO_2e$

Partners
- N/A

Targets
- Offer R99 or R100 at five stations countywide by 2030.

Co-Benefits
- Economic Opportunity
- Public Health & Wellbeing
- Quality of Life

SHORT-TERM ACTIONS

TR-9-A: Incentivize the sale of renewable diesel in the region, targeting a minimum of five stations offering R99 or R100 by 2030. There is currently one renewable diesel station in Napa County, Allied Clean Fuels Plaza.

MEASURE TR-10: Implement the Active Transportation Plan

NVTA is currently finalizing its Active Transportation Plan, which was last updated in 2019. Napa County Jurisdictions will support the adoption and implementation of NVTA's Active Transportation Plan countywide, as it is updated, to enhance multimodal safety and infrastructure and promote the use of bicycles and other forms of active transportation to reduce GHG emissions. Based on data from MTC, NVTA, and the National Housing and Transportation Survey, 0.6 percent of miles traveled in the county in 2019 were either by bicycling or walking (See **Appendix F**). Under this measure, the jurisdictions target a seven percent bicycle and pedestrian mode share by 2030, 10 percent by 2035, and 15 percent by 2045 by miles traveled.

Strategy
Active Transportation

Applicable Jurisdictions
All

GHG Reduction Potential

2030	1,829 $MTCO_2e$
2035	1,708 $MTCO_2e$
2045	748 $MTCO_2e$

Partners
- NVTA

Targets
- Seven percent bicycle or pedestrian mode share countywide by 2030 by miles traveled
- 10 percent bicycle or pedestrian mode share countywide by 2035 by miles traveled
- 15 percent bicycle or pedestrian mode share countywide by 2035 by miles traveled

Co-Benefits

Public Health & Wellbeing

Quality of Life

SHORT-TERM ACTIONS

TR-10-A: Support NVTA's adoption and implementation of the forthcoming NVTA Countywide Active Transportation Plan (est. 2025).

TR-10-B: Support NVTA's efforts to secure funding for and consider opportunities to implement projects, programs, and policies of the Countywide Vision Zero Plan (2023), Local Roadway Safety Plans (LSRPs), and other documents that address multimodal safety improvements.

TR-10-C: Support NVTA's efforts to report annual jurisdiction-level progress toward targets for active transportation infrastructure (bike facilities, sidewalks) and policies to advance mode shift.

TR-10-D: Update municipal codes to incorporate comprehensive bicycle, e-bike, and micromobility parking and charging standards.

TR-10-E: Support NVTA's efforts to evaluate opportunities and deploy secure bicycle parking in downtowns and key retail and employment destinations where large-scale redevelopment is unlikely in the medium-term.

TR-10-F: Establish and/or update & implement policies addressing active transportation facility maintenance and access.

TR-10-G: Support and coordinate with NVTA efforts to develop the Active Transportation Plan, ensure consistency with the Active Transportation Plan in local planning efforts, and avoid unnecessary or duplicative work.

TR-10-H: Encourage cross-agency collaboration between Caltrans, MTC/ABAG, NVTA, and local jurisdictions in the county to identify, prioritize, and secure funding for active transportation projects consistent with local and regional plans.

LONG-TERM ACTIONS

TR-10-I: Continue updating the plans and evaluating the effectiveness of previous strategies and measures in reducing VMT and increasing the shift to active transportation modes.

TR-10-J: Evaluate progress and effectiveness of requirement and modify as necessary to meet policy goals and priorities.

MEASURE TR-11: Expand Transportation Demand Management Programs

Transportation demand management (TDM) helps commuters or travelers reduce reliance on cars by carpooling, vanpooling, and using transit, shuttles, and micromobility (e.g., shared e-scooters). Commute.org is a public program in the Bay Area. Some private companies have TDM programs that serve commuters, such as dedicated shuttles. Napa County Jurisdictions will partner with NVTA and others to expand the availability of TDM programs to reduce VMT and related GHG emissions through active transportation incentives, increased funding, and adoption of local TDM ordinances. Under this measure, the jurisdictions seek to have TDM ordinances adopted such that half of the employees in businesses with 50 or more employees can be eligible for the programs by 2030. The TDM programs must report annual participation metrics.

Strategy
Transportation Demand Management (TDM)

Applicable Jurisdictions
All

GHG Reduction Potential

2030	3,689 $MTCO_2e$
2035	2,351 $MTCO_2e$
2045	673 $MTCO_2e$

Partners
- NVTA
- BAAQMD

Targets
- By 2030, 50 percent of employees in businesses with more than 50 employees are to be eligible for a local TDM program with required annual reporting

Co-Benefits

Public Health & Wellbeing

Quality of Life

SHORT-TERM ACTIONS

TR-11-A: Support NVTA's efforts to secure additional funding to support existing active transportation mobility incentives (e.g., bike, e-bike) and rebate programs.

TR-11-B: Consider increasing funding support to expand current TDM programs (e.g., V-Commute) through increased and regular outreach to employers and existing participants about program benefits and updates.

TR-11-C: Develop & adopt local TDM ordinances in all jurisdictions by 2028. Ordinance should further the VMT and GHG reduction goals of the Countywide Transportation Plan, local General Plans, the Bay Area Clean Air Plan, and the RCAAP. Ordinances should require that TDM programs report annual metrics (e.g., participation, VMT reduction, mode shift, funding). Consider Sonoma County and Contra Costa County ordinances as examples.

TR-11-D: Support feasibility analysis for MAAS (e.g., e-bike sharing), particularly in urban areas. Identify policies and programs that would help spur adoption and use of these services (e.g., parking rules and allowances, safety requirements). See the City of Davis's parking policy for micromobility solutions as an example.

LONG-TERM ACTIONS

TR-11-E: Evaluate the progress and effectiveness of the ordinance and TDM program and modify as necessary to meet policy goals & priorities, including renewing or amending agreements & partnerships (e.g., City of Davis agreement with Spin Bikes).

MEASURE TR-12: Fund Local Transportation Infrastructure Improvements

With the reduction in future gasoline sales, alternatives to gas tax revenue must be found to improve local transportation infrastructure, including active transportation solutions and EV charging infrastructure. Napa County Jurisdictions will develop innovative funding solutions for improvements in local transportation infrastructure, including active transportation and EV charging infrastructure, considering options such as tourist taxes and paid parking requirements.

Strategy
Develop solutions to fund local transportation infrastructure improvement.

Applicable Jurisdictions
All

GHG Reduction Potential

2030	N/A
2035	N/A
2045	N/A

Partners
- NVTA

Targets
- N/A

Co-Benefits

Public Health & Wellbeing

Quality of Life

SHORT-TERM ACTIONS

TR-12-A: Consider funding options to improve local transportation infrastructure. Examples of options could include, but are not limited to: reallocating or expanding transient occupancy taxes (TOT), paid parking requirements at wineries or events (with exceptions for ZEVs, low income, or advanced reservations), road congestion fees, modifying or improsing new transportation development impact fees, or other options.

MEASURE TR-13: Reduce Vehicle Miles Traveled of Visitors to Napa County

According to a study by Visit Napa Valley, in 2023, Napa received 3.7 million visitors, many of whom travel by car (Visit Napa Valley 2024). These recreational trips are a major source of the county's on-road transportation emissions. Napa County Jurisdictions will develop strategies to reduce VMT for recreational purposes, such as those associated with tourism, focusing on creating a visitor TDM program in partnership with NVTA and Visit Napa Valley. Efforts under this measure could also be paired with other measures in the RCAAP related to green and zero-carbon buildings, reducing waste, water conservation, increasing sustainable vineyard or winery certifications, and other measures that promote or support sustainable tourism.

Strategy
Visitor TDM

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- NVTA
- Visit Napa Valley

Targets
- N/A

Co-Benefits


Economic Opportunity


Public Health & Wellbeing


Quality of Life

SHORT-TERM ACTIONS

TR-13-A: Support NVTA in developing a visitor TDM program that targets recreational trips.

MEASURE TR-14: Reduce Minimum Parking Requirements

Studies show that limiting parking supply can incentivize the use of public transit and other modes apart from personal vehicles (CAPCOA 2024: 122). Napa County Jurisdictions will consider the feasibility of either reducing minimum parking requirements, or implementing maximum parking requirements, for new development or redevelopment projects, thereby promoting alternative modes of transportation (e.g., transit, carpooling) and reducing the VMT and related GHG emissions. This measure includes studying the feasibility of modifying zoning codes and managing parking supply with strategies such as permit parking and metered parking.

Strategy
Parking

Applicable Jurisdictions
All

GHG Reduction Potential

2030	N/A
2035	N/A
2045	N/A

Partners
- NVTA

Targets
- For existing parking supply, enact solutions that disincentivize their use.

Co-Benefits

Public Health & Wellbeing

SHORT-TERM ACTIONS

TR-14-A: Consider the feasibility of reducing minimum parking standards or establishing maximum parking standards. If determined to be feasible and appropriate, develop and adopt ordinances amending parking standards in local zoning codes.

LONG-TERM ACTIONS

TR-14-B: Manage the parking supply by implementing measures such as permit parking, parking time limits, and metered parking.

TR-14-C: Consider modifying the jurisdictions' zoning codes to unbundle parking from rent for all new multi-family residential developments with 16 or more units located within ¼ mile of arterials or collectors with fixed route service.

MEASURE TR-15: Empower Community to Choose Active Transportation Options

Unified action across the community is needed to realize progress toward the RCAAP's goal of reducing transportation emissions. Napa County Jurisdictions will enhance community engagement and awareness of alternative modes to increase the use of active transportation options and reduce VMT. This includes marketing existing transit and active transportation services and infrastructure and exploring the implementation of pilots for local deliveries by e-bike or electric cargo bikes.

Strategy
Transportation Education

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- NVTA
- Visit Napa Valley
- Napa County Bike Coalition

Targets
- N/A

Co-Benefits


Economic Opportunity


Public Health & Wellbeing


Quality of Life

SHORT-TERM ACTIONS

TR-15-A: Market existing transit/transportation options (Vine Transit, V-Commute) to support mode shift and GHG reduction goals.

TR-15-B: Consider bike delivery pilot programs to demonstrate the effectiveness of zero-emission local deliveries.

LONG-TERM ACTIONS

TR-15-C: Continue to expand awareness, education, and community action.

MEASURE OF-1: Reduce Landscaping-Related Emissions

Landscaping equipment accounted for a quarter of the county's off-road emissions in 2019 and is relatively inexpensive to replace with low- or zero-emission alternatives such as renewable diesel or small electric equipment. Small Off-Road Engine Regulation (SORE) requires that new small off-road engines under 25 horsepower be zero-emissions starting in 2024. Napa County Jurisdictions will support SORE and accelerate this transition by implementing a countywide ban on all fossil-fueled landscaping equipment, both new and existing, under 25 horsepower by 2030.

Strategy
Electrification and Clean Alternatives

Applicable Jurisdictions
All

GHG Reduction Potential
2030 290 $MTCO_2e$
2035 149 $MTCO_2e$
2045 12 $MTCO_2e$

Partners
- Bay Area Air District

Targets
- 25 percent of existing landscaping equipment are zero-emissions by 2030.
- 100 percent of new landscaping equipment are zero-emissions by 2035.

Co-Benefits
- Economic Opportunity
- Public Health & Wellbeing
- Quality of Life

SHORT-TERM ACTIONS

OF-1-A: Promote regional and State incentive programs to encourage residents and business owners to convert or replace their fossil fuel-powered gardening equipment, such as lawnmowers, leaf blowers, and edge trimmers, with electric alternatives.

OF-1-B: Implement a countywide ban on fossil-fueled landscape equipment under 25 horsepower by 2030.

OF-1-C: To expedite turnover of older gas/diesel-powered equipment, develop a "Lawn and garden equipment trade-in program" to provide vouchers or rebates for purchasing electric landscape equipment to residents and businesses that trade-in fossil fuel–powered landscaping equipment. Identify and plan for convenient drop off locations, promoting awareness of these locations.

An example of a lawn equipment trade-in program is San Diego Air Pollution Control District's Electric Landscape Equipment Assistance Funding program and Bay Area Air District's (closed) Residential and Public Sector Lawn and Garden Equipment Exchange Programs.

OF-1-D: Explore opportunities to provide more funding through extending the Bay Area Air District's incentives or develop a new incentive program tailored for the region using Natural Resources Conservation Service's (NRCS's) Environmental Quality Incentives Program for buying electric off-road equipment.

LONG-TERM ACTIONS

OF-1-E: Continue action until all gardening equipment has been electrified or use zero-carbon alternatives.

OF-1-F: Evaluate the progress of the program and number of equipment replaced and track implementation via updates through the California Air Resources Board's (CARB's) OFFROAD model.

MEASURE OF-2: Zero-Emission Loading Docks

Diesel-powered commercial trucks often idle while docked at loading bays during unloading and loading of freight. Additionally, many refrigerated trucks have a separate unit called a transportation refrigeration unit (TRU) that runs on the same fuel as the engine to keep perishable items cold. TRU emissions are expected to account for six percent of the county's offroad emissions starting in 2030. By working with local partners such as NVTA, Napa Green, and local chambers of commerce, Napa County Jurisdictions aim to electrify 33 percent of existing commercial loading docks to reduce emissions from commercial trucks and TRUs by 2030, 66 percent by 2035, and 100 percent by 2045.

Strategy
Electrification and Clean Alternatives

Applicable Jurisdictions
All

GHG Reduction Potential

2030	271 $MTCO_2e$
2035	541 $MTCO_2e$
2045	820 $MTCO_2e$

Partners
- NVTA
- Napa Green
- Chambers of Commerce, or others

Targets
- Electrify 33 percent of existing commercial loading docks by 2030.
- Electrify 66 percent of existing loading docks by 2035.
- Electrify 100 percent of existing loading docks by 2045.

Co-Benefits

Public Health & Wellbeing

SHORT-TERM ACTIONS

OF-2-A: Electrify 33 percent of existing commercial loading docks to include electric charging ports for trucks and Transport Refrigeration Units (TRUs) by 2030.

OF-2-B: Coordinate with Napa Green or other similar program to include electrification of loading docks as a criterion for certification.

LONG-TERM ACTIONS

OF-2-C: Electrify 100 percent of existing commercial loading docks to include electric charging ports for trucks and TRUs.

OF-2-D: Evaluate progress and effectiveness of requirement and modify as necessary to meet policy goals & priorities.

MEASURE OF-3: Zero Carbon Construction Equipment - Community

Construction equipment is typically powered by diesel fuel and in Napa County, it accounts for 10 percent of off-road emissions. Napa County Jurisdictions will support local efforts to transition all construction equipment within the community to zero-carbon alternatives by publicizing information about available incentives for electric construction equipment. The jurisdictions will target 60 percent of construction equipment in the community will use zero-carbon alternatives by 2035 and 100 percent by 2045.

Strategy
Electrification and Clean Alternatives

Applicable Jurisdictions
All

GHG Reduction Potential
2030 0 $MTCO_2e$
2035 5,944 $MTCO_2e$
2045 10,221 $MTCO_2e$

Partners
- N/A

Targets
- Transition 60 percent of all construction fuel use to zero-carbon alternatives by 2035.
- Transition 100 percent of all construction fuel use to zero-carbon alternatives by 2045.

Co-Benefits
- Economic Opportunity
- Public Health & Wellbeing

SHORT-TERM ACTIONS

OF-3-A: Provide information about available incentives for electric construction and portable equipment to contractors at the building permit counter through informational brochures, such as CARB's Clean Off-Road Equipment Vouchers, and Carl Moyer program. For discretionary projects, the use of electric construction and portable equipment will be a requirement after 2030.

MEASURE OF-4: Zero Carbon Construction Equipment - Municipal

While OF-3 focuses on construction equipment at the community level, municipalities control their own construction equipment fleet. Municipalities require construction equipment for capital improvements, such as infrastructure projects. Napa County Jurisdictions aim to transition 50 percent of fuel use in construction equipment in each jurisdiction's municipal fleet to zero-carbon by 2030 and 100 percent by 2045.

Strategy
Electrification and Clean Alternatives

Applicable Jurisdictions
All

GHG Reduction Potential
2030 236 $MTCO_2e$
2035 472 $MTCO_2e$
2045 472 $MTCO_2e$

Partners
- N/A

Targets
- Transition 50 percent of all municipal construction fuel use to zero-carbon alternatives by 2030.
- Transition 100 percent of all municipal construction fuel use to zero-carbon alternatives by 2035.

Co-Benefits
- Economic Opportunity
- Public Health & Wellbeing

SHORT-TERM ACTIONS

OF-4-A: Consider incorporating the use of electric construction and portable equipment in the city and county bid evaluation processes for capital improvement projects, providing preference to contractors that utilize electric-powered equipment. For discretionary projects, this will be a requirement after 2030.

LONG-TERM ACTIONS

OF-4-B: Evaluate progress and effectiveness of requirement and modify as necessary to meet policy goals & priorities.

MEASURE SW-1: Increase Solid Waste Diversion

Solid waste will increasingly become a significant source of the county's emissions through 2045, with the projected reduction of emissions in other sectors. About half of these emissions will come from waste generated by the community and the other half will come from waste that has been accumulated in landfills over time. The county's 2019 diversion rate was approximately 51 percent, which means 49 percent of countywide waste generated in 2019 was sent to landfills. Napa County Jurisdictions will work with regional partners to substantially reduce the amount of waste that is landfilled per year to achieve a 75 percent diversion rate by 2030, 80 percent by 2035, and 85 percent by 2045. This will be supported by various programs like backyard composting, food waste recovery, and mandatory commercial composting.

Strategy
Zero Waste

Applicable Jurisdictions
All

GHG Reduction Potential

2030	47,342 $MTCO_2e$
2035	56,974 $MTCO_2e$
2045	68,072 $MTCO_2e$

Partners

- Upper Valley Waste Management Agency
- Upper Valley Disposal Services
- Napa County Recycling and Waste Services
- Berryessa Garbage Service
- Recology American Canyon
- Napa County Office of Education

Targets

- Increase the countywide waste diversion rate to 75 percent by 2030
- Increase the countywide waste diversion rate to 80 percent by 2035
- Increase the countywide waste diversion rate to 85 percent by 2045.

Co-Benefits

Economic Opportunity

Public Health & Wellbeing

SHORT-TERM ACTIONS

SW-1-A: Expand the Residential Backyard Composting Program for single-family residences by sharing information through social media and print media for optional sign-ups and providing a start kit, information pamphlet, and free composting bins to residents who sign up.

SW-1-B: Adopt and implement the draft Reusable Food Ware and Waste Reduction Ordinance, as recommended by the CAC in March 2024.

SW-1-C: Develop a feasibility study to adopt a similar ordinance in all cities in the region.

SW-1-D: Pursuant to Senate Bill (SB) 1383, implement an Edible Food Recovery Program. Collaborate with jurisdictions to meet SB 1383 requirements by partnering with local food banks and waste collection services. This helps hotels and restaurants donate edible food to disadvantaged communities, reducing waste and hunger.

SW-1-E: Implement a Mandatory Commercial Food Waste Diversion Program. Require all food facility health permit holders to ensure that at least 80 percent of compostable waste is disposed of in curbside or commercial compost containers.

SW-1-F: In support of SB 1383 requirements, conduct annual random Waste Bin Audits with local waste collection operators to check compliance. Non-compliant permit holders will face up to three follow-up audits, receive up to two warnings, and may be required to attend composting training. Permits may be rescinded after the third audit if requirements are not met, with allowances for appeals or extensions in special circumstances.

LONG-TERM ACTIONS

SW-1-G: Continue to implement the program and support backyard composting.

SW-1-H: Monitor progress of ordinance implementation and enforcement in Napa County.

As per the feasibility study's results, consider developing an ordinance for all cities or updating the current ordinance to be applicable to the whole region.

SW-1-I: Evaluate progress and effectiveness of requirements and modify as necessary to meet policy goals & priorities.

MEASURE SW-2: Reduce Construction and Demolition Waste

According to the California Department of Resources Recycling and Recovery (CalRecycle), construction and demolition waste can easily be reused or recycled, and doing so can be more economical than disposal. Examples of construction and demolition waste include lumber, drywall, metals, masonry (e.g., concrete, bricks), pipes, carpet, and green waste associated with landscaping. Many jurisdictions in the state currently require that projects recycle or reuse a minimum of 65 percent of their construction and demolition waste (e.g., County of Los Angeles, City of Davis, City of Mountain View). Napa County Jurisdictions will develop a unified Construction Waste Management Plan to ensure that construction and demolition projects recycle or reuse at least 70 percent of waste materials by 2035, promoting sustainable building practices and reducing landfill use.

Strategy
Zero Waste

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Upper Valley Disposal Services
- Napa Recycling and Waste Services
- Napa County Recycling and Waste Services
- Berryessa Garbage Service
- Recology American Canyon

Target
- Recycle or reuse at least 70 percent of construction and demolition waste by 2035.

Co-Benefits

Public Health & Wellbeing

SHORT-TERM ACTIONS

SW-2-A: Develop a unified Construction Waste Management Plan applicable to all jurisdictions to require and achieve recycle or reuse of at least 70 percent of construction and demolition (C&D) waste from every project starting from 2035 without compromising building integrity and quality.

LONG-TERM ACTIONS

SW-2-B: Review the plan every 10 years to incorporate state-of-the-art construction waste management practices and identify new construction waste management facilities in the region.

MEASURE SW-3: Waste Education and Awareness

Communitywide knowledge of the available waste management resources (e.g., recycling, composting, reuse) and programs, and understanding of waste reduction solutions can support the RCAAP's solid waste goals. Napa County Jurisdictions will require mandatory information dissemination and update curriculums on solid waste programs to increase public awareness and education on sustainable waste management, partnering with local schools to promote sustainable practices and reduce waste at the community level. Communitywide waste reduction will help in reducing CH_4 emissions generated from landfilled waste.

Strategy
Zero Waste

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Upper Valley Waste Management Agency
- Napa Recycling and Waste Services
- Recology American Canyon
- Napa County Office of Education
- Napa Valley Unified School District
- Napa County Recycling and Waste Services
- Upper Valley Disposal Services
- Berryessa Garbage Service

Target
- N/A

Co-Benefits

Public Health & Wellbeing

SHORT-TERM ACTIONS

SW-3-A: Require that all jurisdictions inform residents and businesses regarding available local programs and information of type of waste accepted as recyclables/solid waste/compostables through print media and social media twice a year or when a new program is launched.

SW-3-B: Update the Napa Countywide Waste Reduction and Recycling Curriculum to reflect current policies, methods, and technologies.

SW-3-C: Partner with School Districts to require that schools in all jurisdictions use the Napa Countywide Waste Reduction and Recycling Curriculum.

LONG-TERM ACTIONS

SW-3-D: Evaluate progress and effectiveness of requirement and modify as necessary to meet policy goals & priorities.

SW-3-E: Review the Waste Reduction and Recycling Curriculum for its applicability for the whole community and update, as necessary. Organize workshops at schools (at least one every year to encompass all locations) targeted at the whole community. Implement the recommended curriculum.

MEASURE SW-4: Increase Landfill Methane Capture Capacity

As emissions are reduced from other emissions sources, reducing emissions from the solid waste sector will become increasingly important. More than half of solid waste emissions come from waste accumulated in landfills within the county. By 2045, CH_4 emissions from landfills would account for 20 percent of countywide emissions if no further action is taken. As of 2019, the CH_4 capture efficiency at landfills is assumed to be 75 percent. Napa County Jurisdictions will collaborate with regional partners to increase the CH_4 capture efficiency at local landfills to 85 percent by 2035 and 95 percent by 2045, reducing GHG emissions.

Strategy
Landfill Emissions

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 93,048 $MTCO_2e$
2035 98,772 $MTCO_2e$
2045 104,985 $MTCO_2e$

Partners
- American Canyon Landfill and Clover Flat Landfill
- Upper Valley Disposal ServicesRecology American Canyon

Target
- Increase CH_4 capture efficiency at regional landfills to 85 percent by 2035
- Increase CH_4 capture efficiency at regional landfills to 95 percent by 2045

Co-Benefits

Public Health & Wellbeing

SHORT-TERM ACTIONS

SW-4-A: Work with American Canyon Landfill and Clover Flat Landfill to confirm current landfill gas collection efficiency.

SW-4-B: For landfills that may have halted CH_4 capture since 2019, conduct a feasibility study to determine solutions to restart CH_4 capture and either flare, collect, or generate electricity from the CH_4 to reduce the intensity of GHGs emitted. Additionally, if the landfill has less than 80 percent landfill gas collection efficiency, a feasibility study should be undertaken to determine solutions to capture additional CH_4 and increase the landfill gas collection efficiency to at least 85 percent.

SW-4-C: Establish requirements that both landfills provide evidence to substantiate that their collection efficiency improvements are being achieved through regular reports to local agencies (e.g., every 5 years).

LONG-TERM ACTIONS

SW-4-D: Require that both landfills provide evidence to substantiate their collection efficiency in a report by the end of 2046.

MEASURE SW-5: Support Increased Methane Capture Efficiency at Regional Landfills

In 2019, approximately 81 percent of the waste generated in the county was exported beyond the boundary of the county, and 99 percent of the exported waste was delivered to Portero Hill Landfill. After the anticipated closure of Clover Flat Landfill in 2027, nearly all future waste generated in the county will be sent to landfills outside the county. The emissions generated by the exported waste are influenced by the level of CH_4 capture efficiency at those external landfills. Despite not having jurisdictional control over the Potrero Hills Landfills, Napa County Jurisdictions will work with Potrero Hills Landfill to reduce GHG emissions associated with the county's exported waste by increasing fugitive CH_4 capture rates, such that the landfill captures at least 85 percent of the CH_4 produced by the landfill by 2035, and 95 percent by 2045.

Strategy
Landfill Emissions

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Potrero Hills Landfill

Target
- Increase CH_4 capture efficiency at Portero Hill Landfill to at least 85 percent by 2035 and 95 percent by 2045.

Co-Benefits

Public Health & Wellbeing

SHORT-TERM ACTIONS

SW-5-A: Partner with landfills outside of Napa County that receive waste from the Napa region to increase CH_4 capture. Prioritize partnering with Potrero Hills Landfill, which took in 99 percent of the region's exported waste in 2019, to increase fugitive CH_4 emission capture rate to a minimum of 85 percent by 2035. This action assumes that the region will continue to send the majority of its waste to Potrero Hills Landfill.

MEASURE SW-6: Support Waste-to-Energy Facilities

Waste-to-energy facilities convert compost, agricultural cuttings, biomass, or other organic waste into usable fuel that can be used as an energy source to generate electricity or portable fuels (e.g., biogas) and even soil amendments that increase soil carbon (e.g., biochar). Some waste-to-energy systems are already being implemented in Napa County. Additionally, the City of Napa is actively reviewing and evaluating a biomass gasification project at the City-owned Materials Diversion Facility. Napa County Jurisdictions will work with regional partners to promote the use of waste-to-energy systems at regional landfills to capture and utilize the inherent energy in CH_4, reducing GHGs.

Strategy
Landfill Emissions

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Upper Valley Disposal services
- Waste Connections
- Recology American Canyon

Targets
- N/A

Co-Benefits
Public Health & Wellbeing

SHORT-TERM ACTIONS

SW-6-A: Support waste management providers and jurisdictions in installing waste-to-energy systems. For example: streamline permitting and/or provide low-interest loans for eligible systems. Technologies considered may include, but are not limited to, anaerobic digestion, gasification, plasma gasification, hydrothermal carbonization, and low- or zero-emission incineration.

LONG-TERM ACTIONS

SW-6-B: Review permitting process and loans at least once every 5 years for feasibility.

SW-6-C: Coordinate with other local agencies and jurisdictions to develop and implement decentralized waste-to-energy systems.

MEASURE WW-1: Reduce Methane Emissions from Wastewater Treatment Plants

In 2019, wastewater accounted for four percent of countywide emissions and is generated by both on-site septic systems and centralized wastewater treatment plants (WWTPs), but 93 percent of those emissions were from WWTPs. WWTPs generate CH_4 that often escapes into the atmosphere rather than being captured as a resource. Napa County Jurisdictions will require WWTPs to conduct periodic evaluations and develop solutions to reduce fugitive CH_4 emissions for those that do not already have waste-to-energy systems in place. The cities of Napa and American Canyon, the two most populous jurisdictions in the county, are either currently implementing or planning to implement such systems. American Canyon's Waste Recovery Facility is currently exploring a high-strength waste project that will capture CH_4 emissions no later than 2035.

Strategy
Wastewater Treatment

Applicable Jurisdictions
All

GHG Reduction Potential
2030 32,739 $MTCO_2e$
2035 43,227 $MTCO_2e$
2045 45,412 $MTCO_2e$

Partners
- Local wastewater agencies

Targets
- Implementation of waste-to-energy facilities for the cities of Napa and American Canyon, at the minimum, by 2035.

Co-Benefits

Public Health & Wellbeing

SHORT-TERM ACTIONS

WW-1-A: For WWTPs that do not have waste-to-energy systems in place, require public and private WWTPs located in the region to conduct a full evaluation of the WWTPs and report to the Napa County's Environmental Health division every three years to investigate and propose solutions to reducing fugitive CH_4 emissions that are not captured by existing waste-to-energy systems.

LONG-TERM ACTIONS

WW-1-B: Evaluate progress and effectiveness of requirement and modify as necessary to meet policy goals and priorities.

MEASURE WW-2: Explore Recycled Water Opportunities

Recycled water has significant potential for offsetting potable water demand for non-drinking applications throughout Napa County. Napa County Jurisdictions will work with local wastewater agencies to expand the production capacity, distribution infrastructure, and applications for recycled water across the county through feasibility studies, strategic planning, and the pursuit of external funding opportunities.

Strategy
Recycled Water

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Local wastewater agencies

Targets
- N/A

Co-Benefits

Economic Opportunity

SHORT-TERM ACTIONS

WW-2-A: Encourage wastewater agencies to conduct a feasibility study to expand the supply of recycled water and infrastructure (e.g., pipelines) to areas of demand, prioritizing agricultural applications and large outdoor irrigation uses. Incorporate results into wastewater agencies' master plans.

LONG-TERM ACTIONS

WW-2-B: Plan the expansion of recycled water pipelines to meet demand, including in high-density areas. Pursue grant funding for eligible projects.

WW-2-C: Reevaluate the feasibility of Purified Water based on updated cost estimates. Pursue grant funding and implementation of project(s) if determined to be cost-effective and publicly acceptable.

MEASURE WW-3: Reduce Residential Water Use

A major component of water consumption throughout Napa County comes from residential water use. Napa County Jurisdictions will establish specific water use performance targets of 47 gallons per capita per day (gpcd) aligned with State standards by 2029 and 42 gpcd by 2030. The jurisdictions will also provide the tools and incentives needed to achieve these targets and ultimately reduce water use from both single-family and multi-family residential properties.

Strategy
Water Use Efficiency Conservation

Applicable Jurisdictions
All

GHG Reduction Potential

2030	N/A
2035	N/A
2045	N/A

Partners

- Napa County Flood Control & Water Conservation District

Targets

- Achieve average indoor residential water use of 47 gpcd or less for all jurisdictions between 2025 and 2029.
- Reduce average indoor residential water use to 42 gpcd or less by 2030 and beyond.
- Increase residential adoption of water-efficient fixtures, appliances, and landscaping.

Co-Benefits


Cost Savings


Economic Opportunity


Ecosystem Health

SHORT-TERM ACTIONS

WW-3-A: All jurisdictions strive to achieve average indoor residential water use of 47 gpcd or less for 2025-2029 (SB 606/AB 1668 standard).

WW-3-B: All jurisdictions offer a selection of rebate incentives for their residential customers based on available funding, local cost-effectiveness, and market penetration, choosing from among the following products and practices:

- High-Efficiency Toilet,
- High-Efficiency Residential Clothes Washer,
- Hot Water Recirculation Pump,
- Smart Home Water Monitor,
- Customer-Side Leak Repair,
- Multi-Family Submetering,
- "Cash For Grass" Water-Efficient Landscape Conversion,
- Smart Irrigation Controller,
- Drip Irrigation Conversion,
- Pool Cover,
- Laundry-to-Landscape Greywater,

- Rainwater Harvesting, and
- Pursue grant funding for rebate programs.

WW-3-C: Consider increasing "Cash for Grass" rebate amounts to accelerate the conversion of unwanted high-water-use residential lawn areas to water-efficient landscaping.

WW-3-D: Consider special direct installation programs for low-income customers to overcome the barriers of traditional rebate programs, providing water efficiency upgrades for an underserved segment of the community.

WW-3-E: Incorporated jurisdictions either implement advanced metering infrastructure or offer Smart Home Water Monitor rebates to empower customers to manage their water use and receive timely leak alerts.

LONG-TERM ACTIONS

WW-3-F: All jurisdictions strive to achieve average indoor residential water use of 42 gpcd or less for 2030 and beyond (SB 606/AB 1668 standard).

WW-3-G: Reduce or eliminate rebates in the long term based on available funding, changes in cost-effectiveness, or market saturation; and add new rebates as innovative, proven water-saving products arise.

WW-3-H: Continue to seek funding for residential water conservation rebates.

MEASURE WW-4: Prioritize Native Drought Tolerant Plants in Municipal Landscaping

Municipal landscaping can serve as a model for sustainable water practices that can be applied to the broader community. Napa County Jurisdictions will transform public spaces across Napa County by prioritizing native, drought-tolerant plantings in landscaped areas at municipal facilities, in compliance with AB 1572, which requires eliminating non-functional turf at municipal properties by 2027.

Strategy
Water Use Efficiency
Conservation

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Napa County Flood Control & Water Conservation District
- Napa County Resource Conservation District (Napa RCD)

Targets
- Achieve full compliance with AB 1572 requirements for eliminating non-functional turf at municipal properties by 2027.

Co-Benefits
- Cost Savings
- Economic Opportunity
- Ecosystem Health

SHORT-TERM ACTIONS

WW-4-A: Identify priority municipal landscaping areas for replacement with native, drought-tolerant alternatives. Prioritize project areas based on size and the greatest water savings opportunities.

WW-4-B: To facilitate implementation, consider certification of at least one public works staff member from each jurisdiction to implement sustainable and climate-smart landscapes (e.g., ReScape certification).

WW-4-C: All jurisdictions adopt regionally consistent ordinances to implement and enforce AB 1572, which phases in a ban on the use of potable water for irrigation of non-functional turf at municipal properties in 2027. Ordinance must include exemptions to ensure the health of trees. See related action WW-7-E for application of AB 1572 to the rest of the community.

LONG-TERM ACTIONS

WW-4-D: Maintain sustainable landscape training regimen for public works staff.

WW-4-E: Continue local enforcement of AB 1572 non-functional turf irrigation ban and encourage affected jurisdictions to certify their compliance with the State Water Board every three years (as required by law).

MEASURE WW-5: Reduce Wasteful Potable Water Use

Potable water waste represents an unnecessary drain on Napa County's water resources, particularly for outdoor uses where non-potable alternatives may be available. To reduce wasteful potable water use, Napa County Jurisdictions will establish specific prohibitions against common wasteful practices that persist even outside of drought conditions, including daytime irrigation, post-rainfall irrigation, and uncontrolled runoff, among others. Napa County Jurisdictions will encourage reductions in commercial and agricultural water use through a suite of incentives, requirements, and educational initiatives.

Strategy
Water Use Efficiency Conservation

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Napa County Flood Control & Water Conservation District

Targets
- N/A

Co-Benefits
- Cost Savings
- Economic Opportunity
- Ecosystem Health

SHORT-TERM ACTIONS

WW-5-A: Establish and enforce local regulations that prohibit certain wasteful uses of potable water permanently, not just during declared water shortages.

WW-5-B: Adopt at minimum a core set of permanent water waste prohibitions with an aim to reduce the use of potable water for outdoor activities. Core set shall include bans on:

- daytime irrigation (with specified hours),
- irrigation during and within 48 hours after measurable rainfall,
- excessive irrigation runoff,
- using water to wash driveways and sidewalks (with health and safety exception), and
- using hose without a shutoff nozzle to wash vehicles.

LONG-TERM ACTIONS

WW-5-C: Expand core set of permanent water waste prohibitions as warranted.

MEASURE WW-6: Reduce Public Distribution System Water Loss

Water lost through aging or damaged public distribution systems can result in a significant waste of resources and undermine necessary water conservation efforts across Napa County. To minimize water loss, cities of Napa and American Canyon must not lose more than 23 gallons per service connection per day (gpscd) per requirements under SB 555. Additionally, the Napa County Jurisdictions will use a prioritization approach with respect to managing public water systems such that changes to individual assets are based on their likelihood of failure or consequence of failure.

Strategy
Water Use Efficiency Conservation

Applicable Jurisdictions
All

GHG Reduction Potential

2030	N/A
2035	N/A
2045	N/A

Partners

- Napa County Flood Control & Water Conservation District

Targets

- City of Napa to meet a loss standard of no more than 22.9 gpscd by 2028
- City of American Canyon to meet a loss standard of no more than 21.4 gpscd by 2028

Co-Benefits


Cost Savings


Economic Opportunity


Ecosystem Health


Public Health & Wellbeing

SHORT-TERM ACTIONS

WW-6-A: Require Cities of Napa and American Canyon to meet their SB 555 Maximum Real Loss Standards of 22.9 gpscd and 21.4 gpscd, respectively, by January 1, 2028, and maintain these standards in subsequent years, employing proactive leak detection using acoustic monitoring or other advanced technologies if needed and cost-effective.

WW-6-B: All jurisdictions with public water systems use a prioritization approach to asset management which prioritizes the replacement, rehabilitation, or protection of distribution infrastructure components (e.g., pipes) based on their break/failure/leak history, material, age, and size (i.e., likelihood of failure and consequence of failure).

LONG-TERM ACTIONS

WW-6-C: Evaluate progress and effectiveness of requirement and modify as necessary to meet policy goals and priorities.

MEASURE WW-7: Improve Water Efficiency and Conservation

Public engagement and comprehensive behavior change are necessary components of sustainable water management, especially in Napa County's drought-prone climate. To support this behavior change and foster a culture of water consciousness throughout the county, Napa County Jurisdictions will offer rebates and incentives to the community for water-efficient solutions, establish water-efficient landscaping requirements, and establish a consistent coordinated regional approach to water conservation awareness, education, and engagement through multiple modes, from digital platforms and media campaigns to hands-on workshops and educational programs.

Strategy
Water Loss

Applicable Jurisdictions
All

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Napa County Flood Control & Water Conservation District
- Napa County Office of Education
- Napa RCD
- University of California Cooperative Extension (UCCE) Master Gardeners
- Sonoma-Marin Saving Water Partnership
- Project WET Foundation
- ZunZun

Targets
- Train and certify 100 local Qualified Water Efficient Landscaper (QWEL) professionals by 2030
- Train 60 local K-12 teachers in Project WET curriculum by 2030

Co-Benefits
- Cost Savings
- Economic Opportunity
- Ecosystem Health
- Public Health & Wellbeing

SHORT-TERM ACTIONS

WW-7-A: All jurisdictions to offer a selection of rebate incentives for their non-residential customers based on available funding, local cost-effectiveness, and market penetration, choosing from among the following products and practices:

- High-Efficiency Toilets and Urinals,
- High-Efficiency Commercial Clothes Washer,
- Pre-Rinse Spray Valve,
- Air-Cooled Ice Maker,
- Connectionless Food Steamer,
- Cooling Tower Controller,
- "Cash For Grass" Water-Efficient Landscape Conversion,
- Smart Irrigation Controller,
- Drip Irrigation Conversion, and
- Green Business Stipend.

WW-7-B: Increase "Cash For Grass" rebate amounts to accelerate the conversion of non-functional non-residential turf areas to water-efficient landscaping.

WW-7-C: Pursue grant funding for rebate programs.

WW-7-D: Increase both awareness of and access to available rebates and techniques for water use efficiency by taking a regional approach to public outreach. Coordinate across jurisdictions on periodic countywide outreach campaigns, outreach materials, events, and workshops. Consistent regional messaging through a coordinated campaign (e.g., press releases, social media, radio, billboards) will improve public involvement and disseminate useful tools designed to ensure efficient use of Napa County's water resources.

WW-7-E: All jurisdictions adopt regionally consistent ordinances to implement and enforce AB 1572, which phases in a ban on the use of potable water for irrigation of non-functional turf at institutional properties, commercial, and industrial properties in 2028, and homeowners association common areas in 2029. Ordinance must include exemptions to ensure the health of trees. See related action WW-4-B for application to municipal properties.

WW-7-F: Study the feasibility of applying tiered water rates to non-residential customers for agencies that currently apply uniform volumetric rates for non-residential water consumption.

WW-7-G: Rank non-residential customers by annual water use and require top users to undergo periodic water audits to identify areas for improvement. Work with County to provide audits for large non-residential users in the unincorporated area.

WW-7-H: All jurisdictions aggressively enforce water efficient landscaping ordinance (WELO) for covered projects, ensuring the installation of climate-appropriate plants and efficient irrigation systems. Periodic changes to the State Model WELO should be tracked so that local ordinances and enforcement reflect all current requirements.

WW-7-I: Upon each triennial CALGreen adoption, all jurisdictions will adopt regionally consistent local amendments that include more stringent water efficiency and conservation measures. This reach code should advance new water-saving technology by requiring reduced fixture flow rates and more efficient appliance standards for non-residential projects and consider water reuse systems for all projects. Pursuant to new statewide residential building code update limitations in AB 130 (signed into law on June 30, 2025), a residential reach code may not be adopted and enforced until 2031; however, nonresidential reach code adoption and enforcement may proceed starting in 2026.

WW-7-J: Develop a regularly updated and maintain a regional water conservation web page with a memorable URL (e.g., "NapaValleySavesWater.org" or "NVSavesWater.org") that links all County residents and business owners to their water provider's conservation web page and rebate offerings via address entry or map clicking. Page can be adapted from existing Watershed Information & Conservation Council page (napawatersheds.org/water-conservation). Among other user-friendly resources, it should contain prominent links to the Alliance for Water Efficiency's home waterworks website and its water calculator, and to the state's Save Our Water website.

WW-7-K: Encourage growers to take advantage of Napa RCD water distribution uniformity testing, which identifies opportunities to improve water use efficiency and performance of irrigation systems for vines.

WW-7-L: Partner with Napa RCD and UCCE Master Gardeners to expand free Water-Wise Landscaping Workshops countywide via webinar offerings and/or additional in-person sessions up valley and in American Canyon.

WW-7-M: Partner with Napa RCD and UCCE Master Gardeners to expand the Climate-Friendly Garden Tour to multiple days and jurisdictions, providing all County residents the opportunity to see local real-life examples of outdoor water efficiency.

WW-7-N: Target training and certification of 100 local QWEL professionals by 2030. Pursue grant funding for training classes.

WW-7-O: Target the training of 60 local K-12 teachers in Project WET by 2030, greatly expanding the use of the Project WET Curriculum and Activity Guide in local classrooms.

WW-7-P: Partner with ZunZun program (active in Sonoma and Mendocino counties) to expand Musical Water Education Assemblies countywide.

WW-7-Q: Leverage an annual video contest winner as a countywide public service announcement for water conservation. Celebrate winning videos at board or council meetings to gain more public awareness.

LONG-TERM ACTIONS

WW-7-R: Reduce or eliminate rebates in the long term based on available funding, changes in cost-effectiveness, or market saturation.

WW-7-S: Add new customized rebates as innovative, proven water-saving products arise.

WW-7-T: Continue to seek funding for non-residential water conservation rebates.

WW-7-U: Continue local enforcement of AB 1572 non-functional turf irrigation ban and encourage affected non-residential entities to certify their compliance with the State Water Board every three years (as required by law).

WW-7-V: Adopt tiered water rates for non-residential customers, if deemed feasible.

WW-7-W: Offer free water audits to all non-residential customers.

WW-7-X: Implement formal water conservation program for top 20 percent of non-residential water users, employing at least five best management practices (BMPs) from SB 606/AB 1668 regulations. Top 2.5 percent of users must adopt at least ten of the BMPs.

WW-7-Y: Work with Napa County Green Business, Napa Green Certified Winery, and other similar sustainability programs to include the highest level of water efficiency measures as technology evolves.

WW-8-Z: Consider establishment of a Water Building Performance Ordinance similar to the City of San Jose. If large non-residential buildings do not meet water efficiency benchmarking standards, they would be required to make targeted efficiency upgrades to improve performance.

MEASURE AG-1: Reduce Fossil Fuel Consumption in Field Equipment

The County of Napa will establish a framework to phase out fossil fuel consumption in agricultural equipment through financial incentives, trade-in programs, and strategic information dissemination via multiple channels. With a goal of fully converting both general field equipment and irrigation pumps to clean energy alternatives by 2045, the County of Napa sets specific targets for the conversion of fossil-fueled agricultural field equipment. For existing equipment (2019 and older), the County of Napa aims to convert 25 percent of agricultural field equipment over 25 horsepower (hp) to carbon-neutral alternatives by 2030, 50 percent by 2035, and 100 percent by 2045 and convert 50 percent of diesel irrigation pumps to carbon-neutral alternatives by 2030 and 100 percent by 2035. For new equipment, the County of Napa aims to have 50 percent of new agricultural equipment over 25 hp and 75 percent of new irrigation pumps be carbon-neutral by 2030 and both types of new equipment be 100 percent carbon neutral by 2035.

Strategy
Reduce GHGs from Agricultural Equipment

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 25,316 $MTCO_2e$
2035 49,020 $MTCO_2e$
2045 52,862 $MTCO_2e$

Partners
- Bay Area Air District
- NRCS
- Napa RCD
- Napa County Farm Bureau (NCFB)
- Napa Farmers Market Association (NFMA)

Targets
- 25 percent of existing agricultural field equipment over 25 hp is carbon-neutral by 2030
- 50 percent of existing agricultural field equipment over 25 hp is carbon-neutral by 2035
- 100 percent of existing agricultural field equipment over 25 hp is carbon-neutral by 2045
- 50 percent of existing irrigation pumps are carbon-neutral by 2030
- 100 percent of existing irrigation pumps are carbon-neutral by 2035
- 50 percent of new agricultural equipment over 25 hp and irrigation pumps are carbon-neutral starting in 2030
- 100 percent of new agricultural equipment over 25 hp and irrigation pumps are carbon-neutral starting in 2035

Co-Benefits

Cost Savings

Economic Opportunity

Energy Security

Public Health & Wellbeing

SHORT-TERM ACTIONS

AG-1-A: Explore opportunities to provide more funding through extending the Bay Area Air District's incentives or develop a new incentive program tailored for the region for buying electric agricultural equipment to achieve 100 percent transition of eligible equipment to electric.

AG-1-B: Encourage retirement of fossil-fueled equipment and use of fossil fuels.

AG-1-C: Include a list of available incentives to support the purchase of electric agricultural equipment on the County's Agricultural Commissioner Website, on the RCAAP website/app, through print and social media, and through local agricultural associations such as the NCFB, NFMA, and Napa RCD.

AG-1-D: Develop an irrigation pump replacement program to achieve 100 percent transition to electric, solar, or renewable diesel. The program can be similar to the lawn and garden trade-in program.

AG-1-E: Provide vouchers or rebates for the installation of solar electric irrigation pumps or the purchase of carbon-neutral fuels (e.g., biofuels) to power internal combustion irrigation pumps when replacing a fossil-fuel powered irrigation pump.

LONG-TERM ACTIONS

AG-1-F: Continue the funding program to achieve 100 percent transition of eligible equipment to electric or solar. Update the information as new incentives become available.

AG-1-G: Continue the replacement program to achieve 100 percent of irrigation pumps transitioned to electric or renewable fuels.

MEASURE AG-2: Promote Sustainable Agricultural Equipment

Agricultural operations rely heavily on off-road equipment that traditionally depends on fossil fuels, contributing to both local air pollution and GHG emissions. To expand the adoption of cleaner technologies across Napa County's diverse agricultural landscape, the County of Napa will implement targeted outreach campaigns, along with promotion and educational support on equipment electrification and maintenance.

Strategy
Reduce GHGs from Agricultural Equipment

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Napa RCD
- NCFB
- Napa Green

Targets
- N/A

Co-Benefits


Cost Savings


Economic Opportunity


Energy Security


Public Health & Wellbeing

SHORT-TERM ACTIONS

AG-2-A: Support the agricultural community in converting to alternatively fueled offroad equipment or renewable diesel by organizing outreach campaigns.

AG-2-B: Encourage maintenance and operations of field equipment, (optimizing loads, using effective travel patterns, reducing tire slippage, optimizing irrigation pumps). Provide education on:

- benefits of using electric equipment,
- benefits of maintaining equipment, and
- available resources (incentives).

LONG-TERM ACTIONS

AG-2-C: Evaluate the effectiveness of short-term actions, and adjust and continue actions as warranted.

MEASURE AG-3: Expand Carbon Farming Practices

Agricultural lands across Napa County hold considerable potential for climate mitigation through practices that enhance soil carbon sequestration and ecosystem health. The County will collaborate with regional partners to accelerate carbon farming adoption through strategic partnerships with technical experts, targeted education featuring local practitioners, customized implementation support, and development of regional supply chains for essential materials like compost and native plants. The County will work with local partners to provide both the necessary carbon farming best practices, knowledge, and resources to land managers and farmers as well as create public recognition opportunities to transform agricultural lands into effective carbon sinks.

Strategy
Increase Carbon Storage

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- University of California Agriculture and Natural Resources (UC ANR)
- Napa RCD
- NCFB

Targets
- N/A

Co-Benefits
- Cost Savings
- Economic Opportunity
- Ecosystem Health
- Public Health & Wellbeing

SHORT-TERM ACTIONS

AG-3-A: Establish partnership with UC ANR, Napa RCD, and other community agencies and organizations that assist growers in implementing carbon farming practices.

AG-3-B: Work with community organizations to develop and distribute educational resources on best practices for increasing carbon sequestration, including local examples of land managers in the region who are currently practicing carbon farming. This can include:

- Annual workshops that engage the region's farmers, ranchers, and land managers to share carbon farming and soil management best practices.
- Educating land managers on the quantified carbon capture opportunities provided through conservation easements for natural areas associated with agricultural lands.

AG-3-C: Support local partners (e.g., farmers, vintners, landowners) as they deliver or develop Carbon Farming Plans and provide technical and financial assistance to support implementation of these plans. Examples include:

- Identifying local funding to provide financial and technical assistance to agricultural landowners in developing and implementing Carbon Farming Plans.

- Developing grants for participating in carbon farming practices prioritizing compost instead of fertilizers, grazing management, reduced synthetic fertilizer use, reduced tillage, increasing tree and shrub planting on farm landscapes.
- Providing grant application assistance to income-qualified farmers and ranchers.
- Developing a reporting incentive in which additional assistance will be provided in preparation of carbon farming grant applications if the applicant commits to annual reporting on soil management and carbon farming practices.

AG-3-D: Support local supply chain solutions that support carbon farming efforts, such as: development of local supply chain for native plant stock to support tree and shrub planting on farm landscape

development of resources for on-farm composting and local compost supply chain

LONG-TERM ACTIONS

AG-3-E: On the RCAAP website, develop a webpage dedicated to carbon farming and list the farmers, wineries, ranchers, and land managers who are currently practicing carbon farming, and update the list every year with crop report results (see crop reporting related measure below). Add details necessary for agricultural community engagement (e.g., a farm's website link).

MEASURE AG-4: Report on Carbon Farming Practices

Systematic reporting of carbon farming practices can increase the visibility of successful implementation, encourage more widespread adoption, facilitate knowledge sharing among agricultural stakeholders, and create accountability mechanisms to ensure ongoing improvement and expansion of these methods. Accordingly, the County will update the annual crop report to include information on the current carbon farming practices being implemented each year, showcasing carbon farming throughout Napa County.

Strategy
Increase Carbon Storage

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Napa Green
- Napa RCD

Targets
- N/A

Co-Benefits
- Cost Savings
- Economic Opportunity
- Ecosystem Health
- Public Health & Wellbeing

SHORT-TERM ACTIONS

AG-4-A: Update the annual crop report to include carbon farming practices.

LONG-TERM ACTIONS

AG-4-B: Review the crop reporting format after the Carbon Farming Program study is complete for any gaps in things to report. Afterwards, report every five years on any new carbon farming practices in the region.

Use the reporting results to update the list of farmers, winery and vineyard operators, ranchers, and land managers who practice carbon farming at a large scale on the County webpage (aimed to facilitate voluntary engagement between the agricultural community).

MEASURE AG-5: Expand the Urban Forest

Napa County's incorporated jurisdictions will strategically expand and manage trees within Napa County's urban areas. Expanding the urban forest represents a valuable opportunity to address climate change at the community level. To increase carbon sequestration in the urban forest, jurisdictions will prepare and implement local urban forest management plans to expand the urban tree canopy, targeting a 20 percent expansion from 2019 levels by 2035. An effectively managed expanded urban tree canopy can also reduce energy consumption through natural cooling and enhance air quality—all while creating more livable and aesthetically pleasing urban spaces for residents and visitors.

Strategy
Increase Carbon Storage

Applicable Jurisdictions
American Canyon, Calistoga, Napa, St. Helena, Yountville

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Napa RCD

Targets
- Expand the urban forest by 20 percent in all incorporated jurisdictions by 2035 from 2019 conditions.

Co-Benefits


Cost Savings


Ecosystem Health


Public Health & Wellbeing


Quality of Life

SHORT-TERM ACTIONS

AG-5-A: If not already adopted by 2030, create, adopt, and implement urban forest management plans in all incorporated jurisdictions.

AG-5-B: Target a 20 percent expansion of the urban forest by 2035 from 2019 levels.

AG-5-C: Consider having consistent replacement requirements for tree removals across all jurisdictions (e.g., Napa County's 3:1 tree replacement requirement).

LONG-TERM ACTIONS

AG-5-D: Evaluate the effectiveness of short-term actions, and adjust and continue actions as warranted.

MEASURE AG-6: Restore Woodland and Forest Habitat

Woodland and forest ecosystems across Napa County provide critical carbon sequestration services that have been diminished by historic land use changes and recent wildfires. The County of Napa will work with Napa RCD to accelerate woodland and forest habitat restoration by establishing a coordinated countywide habitat restoration program, leveraging existing initiatives, engaging private landowners, and implementing strategic reforestation efforts. This comprehensive approach—which prioritizes native ecosystems and holistic restoration methods—will help rebuild natural carbon sinks essential to countywide climate goals. The County of Napa aims to restore 10 percent of areas affected by wildfires since 2017 by 2030, 15 percent by 2035, and 20 percent by 2045.

Strategy
Increase Carbon Storage

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential

2030	82,201 $MTCO_2e$
2035	123,302 $MTCO_2e$
2045	164,403 $MTCO_2e$

Partners

- Napa RCD

Targets

- Restore 10 percent of areas affected by wildfire since 2017 by 2030
- Restore 15 percent of areas affected by wildfire since 2017 by 2035
- Restore 20 percent of areas affected by wildfire since 2017 by 2045

Co-Benefits


Ecosystem Health


Public Health & Wellbeing


Quality of Life

SHORT-TERM ACTIONS

AG-6-A: Develop a dedicated countywide watershed management and habitat restoration program that coordinates with relevant stakeholders and departments (e.g., local communities, Napa RCD, PBES & Fire Adminstrator) to accelerate habitat restoration, focusing on historical oak woodlands and coniferous forests. Watershed management and habitat restoration includes a holistic approach to increasing natural carbon sequestration, in balance with other management efforts such as fuel reduction strategies, biological resources, fisheries, and water quality.

To prevent duplicative work, the program should work with existing restoration programs (e.g., Re-Oaking North Bay Plan, Acorns-to-Oaks, watershed restoration programs) to identify the status of existing programs, their effectiveness in restoring habitats, and any challenges they face that limit their effectiveness.

Based on input from Napa RCD, the program should:

- Assist local conservation programs in identifying private and public lands in rural areas suitable for habitat restoration, prioritizing those affected by recent wildfires.
- Secure and distribute funding for program implementation.
- Provide technical assistance, outreach support, and other resources for tree planting plans and programs.
- Facilitate the connection with landowners who would like to plant trees and incentivize landowners to participate.

- Support reforestation research and planning by collaborating on data and knowledge exchange.
- Track all tree and other vegetative plantings annually, including species, size (measured in diameter at breast height [DBH]) at planting, location, ownership, and number.
- Educate the community regarding the significance of native trees in Napa County by partnering with Napa RCD community education or other similar programs.

LONG-TERM ACTIONS

AG-6-B: Evaluate the effectiveness of short-term actions and adjust, as needed.

MEASURE AG-7: Increase Sustainable Vineyard Certification

Vineyards constitute a significant portion of Napa County's agricultural landscape and represent opportunities for meaningful climate action through sustainable management practices. Napa County Jurisdictions will increase sustainable vineyard certification across the county by incentivizing vineyard certification programs like Napa Green, tracking quantifiable GHG reductions from these certifications, expanding program reach through collaboration, and implementing regular review processes. Napa County Jurisdictions aim to certify 75 percent of vineyards by 2030 and 90 percent by 2045, and certify all new vineyards starting in 2030. Ultimately, these efforts reflect the region's collective commitment to climate-smart viniculture while upholding Napa County's reputation for high-quality wine production.

Strategy
Reduce Emissions from Vineyard Management

Applicable Jurisdictions
All

GHG Reduction Potential

2030	20,778 $MTCO_2e$
2035	63,556 $MTCO_2e$
2045	167,444 $MTCO_2e$

Partners
- Napa Green
- Wine Institute, etc.

Targets
- Certify 75 percent of vineyards by 2030.
- Certify 90 percent of vineyards by 2045.
- Certify 100 percent of new vineyards starting in 2030.

Co-Benefits
- Cost Savings
- Economic Opportunity
- Ecosystem Health
- Public Health & Wellbeing

SHORT-TERM ACTIONS

AG-7-A: County will encourage and incentivize all vineyards to apply for, and achieve, sustainable vineyard certification.

AG-7-B: County and cities will support sustainability certification of vineyards (e.g., Napa Green) to reach a target of 75 percent of existing vineyard acreage to become certified by 2030.

AG-7-C: County to collaborate and incentivize sustainability certification programs (e.g., Napa Green) to expand their reach, quantify the metrics they track for all its participants, especially GHG reductions. Ensure reductions are within the scope of the RCAAP GHG emission inventory and forecast (e.g., production-based emissions).

AG-7-D: Work with sustainability certification program administrators to determine additional funding needs for increased certification targets.

Examples of eligible certification programs include: Napa Green, SIP Certified, California Sustainable Winegrowing Alliance, and Demeter Biodynamic Certification.

LONG-TERM ACTIONS

AG-7-E: Review the short-term actions every five years to include more community groups in target audience list.

AG-7-F: Begin certifying all new vineyard acres in the County starting in 2030.

MEASURE AG-8: Enhance Sustainable Livestock Practices

Livestock, particularly cattle, contribute significantly to regional GHG emissions through both enteric fermentation and how manure is managed. The County of Napa will work with regional partners to promote innovative feed additives that naturally suppress CH_4 production, adopt ordinances that discourage or prohibit anaerobic manure management, and require regular reviews of the ordinance. These efforts will enhance sustainable livestock practices that reduce GHG emissions while maintaining agricultural productivity.

Strategy
Reduce Emissions from Livestock

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Napa RCD
- Local chapter of California Cattleman's Association
- UC ANR

Targets
- N/A

Co-Benefits
- Ecosystem Health
- Public Health & Wellbeing

SHORT-TERM ACTIONS

AG-8-A: Encourage livestock owners to include feed additives that reduce CH_4 emissions from cattle (e.g., seaweed additives).

AG-8-B: Adopt ordinances that discourage or prohibit anaerobic manure management (e.g., feedlots) in favor of pasture-managed or composted manure.

LONG-TERM ACTIONS

AG-8-C: Review and update ordinances every five years to apply more stringent regulations.

MEASURE AG-9: Avoid or Minimize Carbon Sequestration Losses Associated with Development Projects

The County will continue to require the avoidance or minimization of carbon sequestration losses attributable to land use development activities, including vineyard conversions, consistent with General Plan Policy CON-24 and the County's Conservation Regulations in Chapter 18.108 of the County Code.

Strategy
Avoid or Minimize Carbon Sequestration Loss

Applicable Jurisdictions
Unincorporated County

GHG Reduction Potential
2030 N/A
2035 N/A
2045 N/A

Partners
- Developers
- Land owners/managers

Targets
- Specific mitigation ratios are established in regulations and vary depending on project location and context. See the Conservation Regulations in Chapter 18 of the County Code.

Co-Benefits
- Ecosystem Health
- Public Health & Wellbeing
- Quality of Life

SHORT-TERM ACTIONS

AG-9-A: The County will explore the potential benefits of establishing a mitigation program and update the Conservation Regulations in Chapter 18 of the County Code, if needed.

AG-9-B: The County will apply the mitigation program to proposed land development projects subject to County review and approval.

LONG-TERM ACTIONS

AG-9-C: The County will monitor replanting projects required as mitigation for proposed projects on an ongoing basis to ensure that carbon sequestration and storage benefits under this program are achieved over the long-term.