



Napa County Regional Climate Action and Adaptation Plan

Climate Action Committee Meeting
December 6, 2024



Overview

- Recap of Greenhouse Gas (GHG) Emissions Inventory and Forecasts
- GHG Reduction Target Pathways for 2030 and 2045
- Quantified GHG Reduction Measures and Gap Analysis
- Q&A

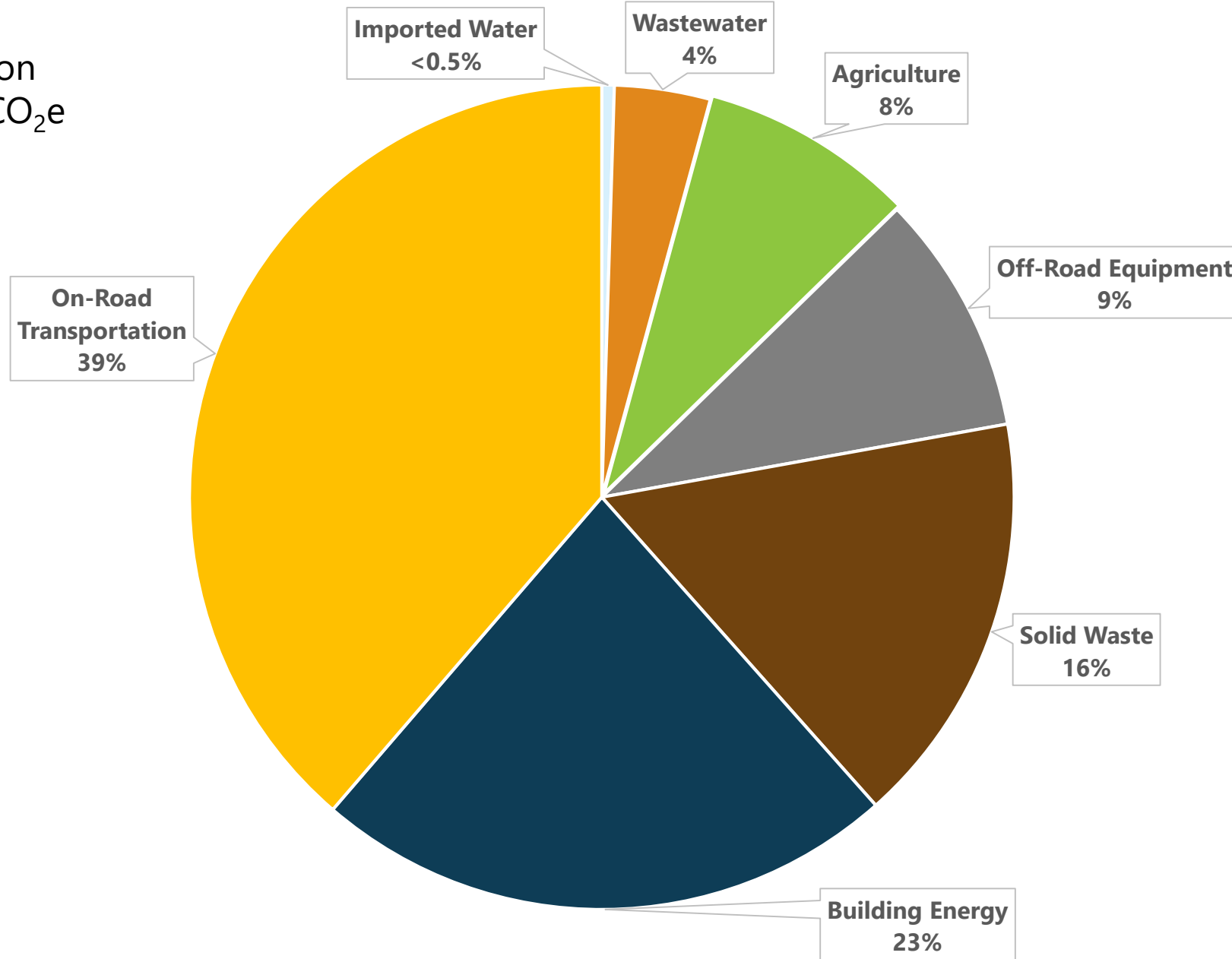




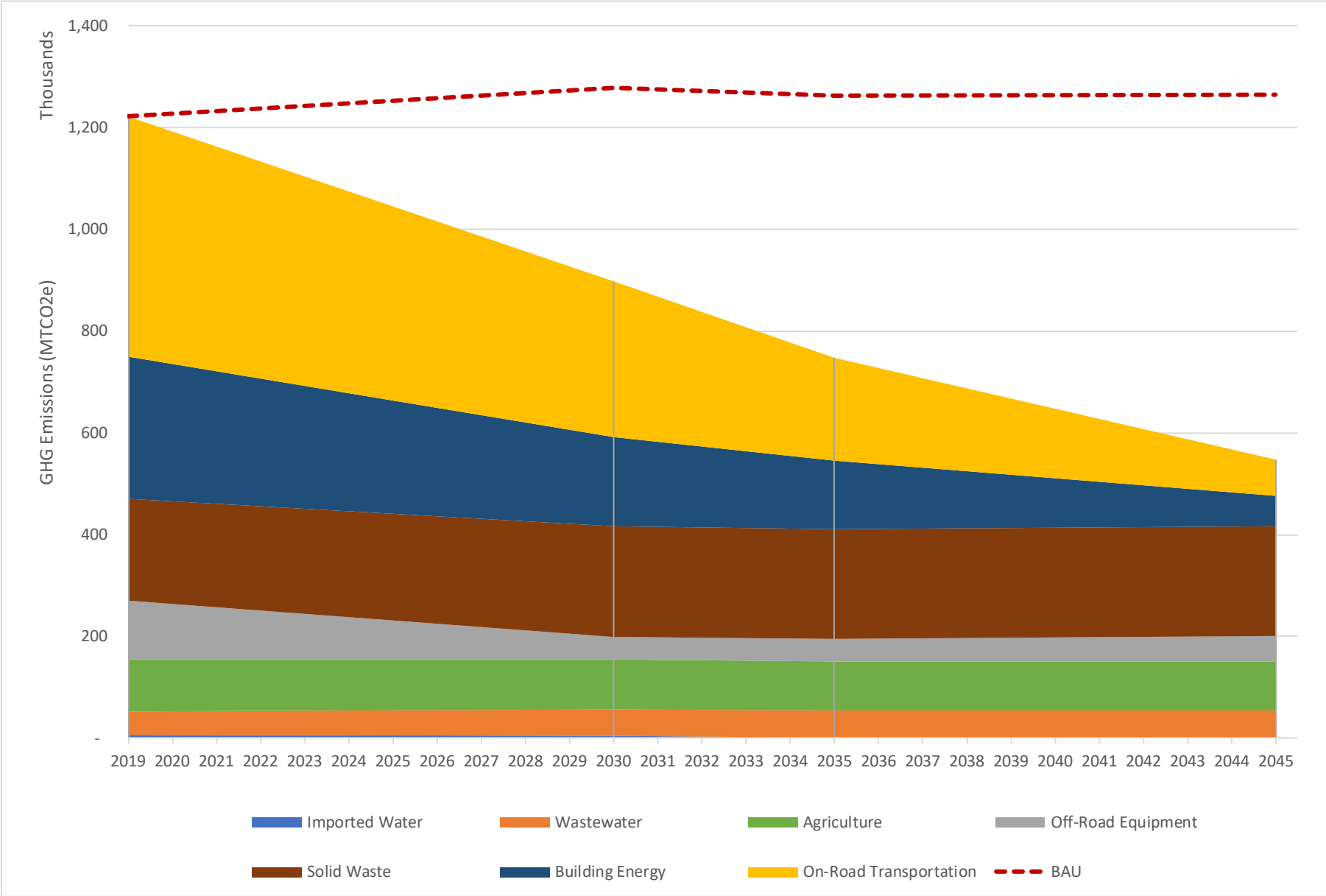
GHG Inventory and Forecasts Recap

2019 Napa County Regional GHG Emissions Inventory

Total: ~1.2 million
metric tons of CO₂e



Napa County Regional Legislative-Adjusted GHG Emissions Forecasts (2019-2045)





GHG Reduction Target Pathways

Background and Regulatory Context

- **RCAAP must be based on substantial evidence**
 - CEQA Guidelines Section 15183.5 requirements for a “qualified” plan under CEQA for GHG analysis tiering/streamlining benefits.
- **Statewide Legislative Targets and Scoping Plan Alignment**
 - **SB 32:** GHG emissions reduced to 40% below 1990 levels by 2030
 - **AB 1279:** GHG emissions reduced to 85% below 1990 levels by 2045 + net-zero by 2045
- **CARB 2022 Scoping Plan:**
 - Local targets should support the State’s implementation of strategies to reach the legislative targets.
 - Reaching net-zero/carbon neutrality statewide before 2045 is economically and technologically infeasible, and will require reliance on carbon capture, utilization, and storage measures.

Background and Regulatory Context

- **Regional Guidance (BAAQMD)**

- Local governments targets and GHG reduction plans should be consistent with SB 32 and AB 1279
- Achieve “as ambitious emissions reductions as technologically and financially feasible by 2045, minimizing the residual number of emissions needed to close the gap to carbon neutrality.”

- **Locally-Adopted Resolutions and Proclamations**

- Carbon Neutral by 2030 - Aspirational goal adopted by local agencies
- Likely not achievable, based on evidence presented in state law and plans and regional guidance

GHG Reduction Target “Pathways”

- 1. Statewide Scoping Plan Anthropogenic GHG Reduction Pathway (2030 and 2045)**
- 2. Carbon Neutrality by 2030 Pathway**
- 3. Carbon Neutrality by 2045 Pathway**

Statewide Scoping Plan Anthropogenic Targets for 2030 and 2045

Scoping Plan and State Legislation

- 42% below 2019 levels by 2030
- 85% below 2019 levels by 2045
- Adjusted from State's targets relative to 1990 emissions
 - 40% below 1990 levels by 2030
 - 85% below 1990 levels by 2045
- Regional Target adjusted from State based on relevant emissions sectors
 - Includes on-road transportation, residential and commercial building energy, solid waste, agriculture, off-road
 - Excludes High-GWP, Industrial, and Carbon Dioxide Removal sectors
- Carbon sequestration not included (net GHG emissions reductions only)

Scoping Plan Anthropogenic Targets (MT CO₂e/year)

Year	Leg-Adjusted BAU Forecast	Target Percent Reduction from 2019	Target Emissions	Gap to Close
2019	1,221,861	0%	-	-
2030	898,904	42%	709,685	189,219
2035	747,956	57% (Interpolated)	520,547	227,410
2045	547,378	85%	178,836	368,542

Carbon Neutrality by 2030

Local Aspirational Goals

- Aspirational goal to achieve 100% carbon neutrality by 2030
- Set by Local Resolutions and Proclamations across Napa jurisdictions.
- The RCAAP is tasked with assessing the feasibility of this goal

Carbon Neutrality by 2030 (MT CO₂e/year)

Year	Leg-Adjusted BAU Forecast	Target Percent Reduction from 2019	Target Emissions	Gap to Close
2019	1,221,861	0%	-	-
2030	898,904	100%	0	898,904
2035	747,956	100%	0	747,956
2045	547,378	100%	0	547,378

Carbon Neutrality by 2045

2022 Scoping and State Legislation

- Targets 100% carbon neutrality by 2045
- For interim years, targets are consistent with the Scoping Plan Anthropogenic Targets
- AB 1279 and the Scoping Plan target carbon neutrality by 2045, including carbon sequestration-related credits.
- Carbon sequestration included, along with net GHG emissions reductions, to achieve target

Carbon Neutrality by 2045 (MT CO₂e/year)

Year	Leg-Adjusted BAU Forecast	Target Percent Reduction from 2019	Target Emissions	Gap to Close
2019	1,221,861	0%	-	-
2030	898,904	42%	709,685	189,219
2035	747,956	57%	520,547	227,410
2045	547,378	100%	0	547,378



Quantified GHG Reduction Measures and Gap Analysis

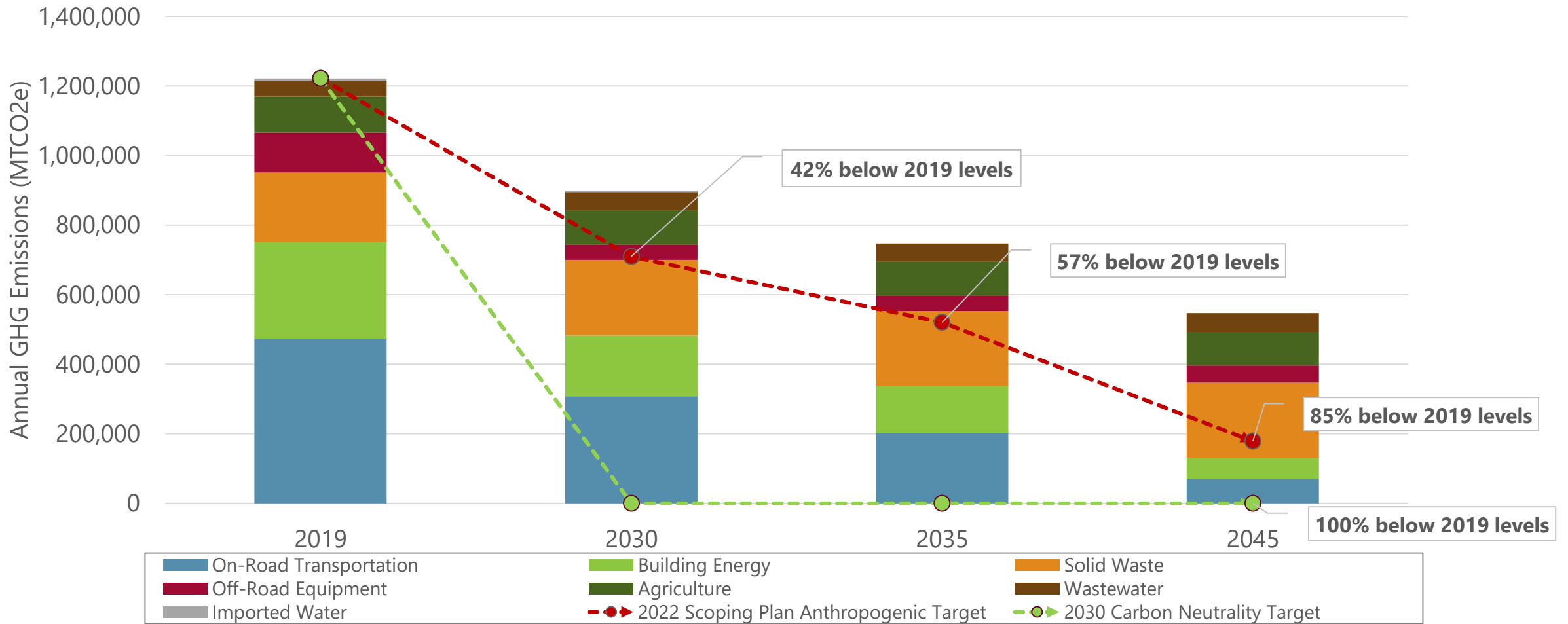
Measures vs. Targets “Gap Analysis”

- Three different target pathways
 - Statewide Scoping Plan Anthropogenic Target
 - 2030 Carbon Neutrality Target
 - 2045 Carbon Neutrality Target
- Legislation reduces future emissions under the Legislative-Adjusted BAU forecast
- The difference between the target emissions and the forecast is the “gap”.
 - $\text{Future 2045 Emissions} - \text{Target Emissions} = \text{gap}$
- A gap REMAINS when $\text{Future Emissions} > \text{Target Emissions}$
- The gap is CLOSED when $\text{Future Emissions} < \text{Target Emissions}$

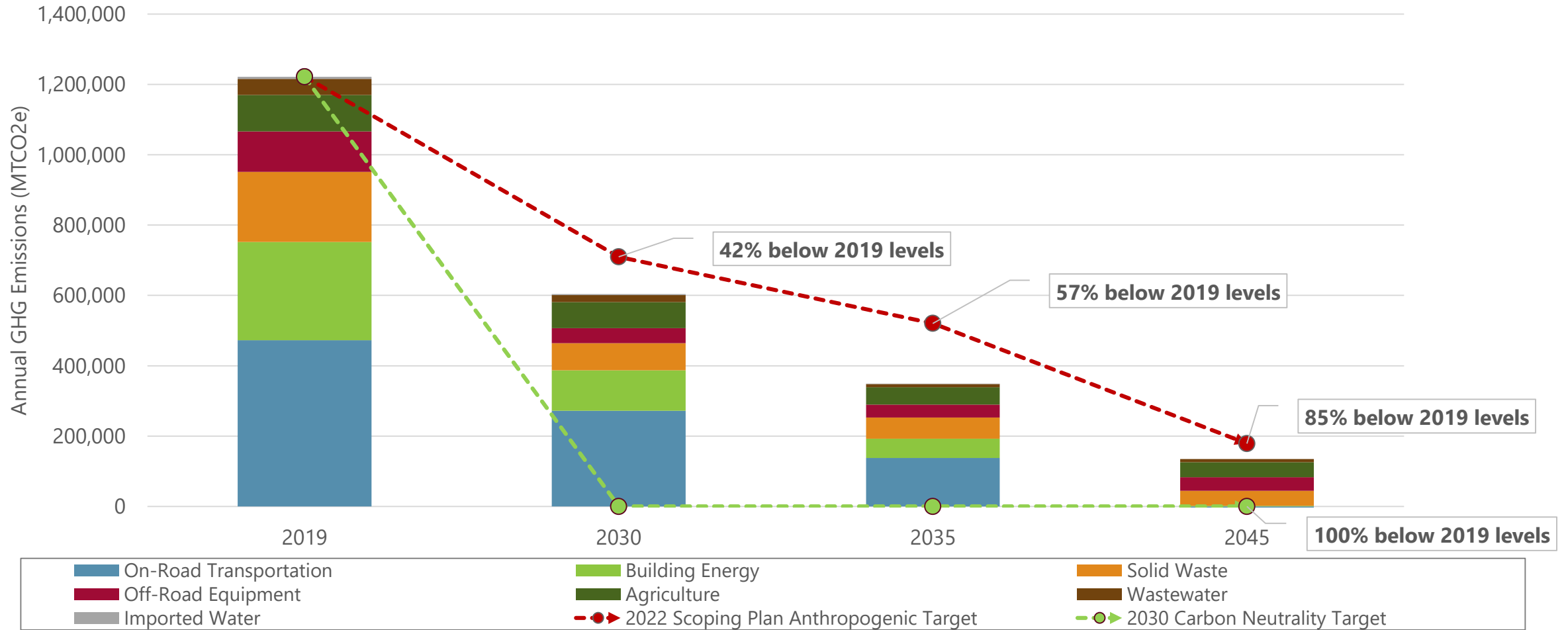
GHG Reduction Measures Analysis

- **46 Total GHG Reduction Measures**
- **18 Quantifiable GHG Reduction Measures**
 - Most (16) measures reduce anthropogenic GHG emissions (included in inventory or forecasts)
 - Few (2) measures reducing GHGs through carbon sequestration (not in inventory or forecasts)
- **Results from Quantitative GHG Reduction Measures Analysis:**
 - Anthropogenic GHG Reduction Measures would reduce regional emissions to 89% below 2019 levels by 2045, meeting the Scoping Plan Anthropogenic Targets.
 - Measures are insufficient to achieve carbon neutrality by 2030, even with carbon sequestration measures.
 - With carbon sequestration measures, carbon neutrality would be achieved by 2045

RCAAP Legislative-Adjusted Business-as-Usual GHG Forecast

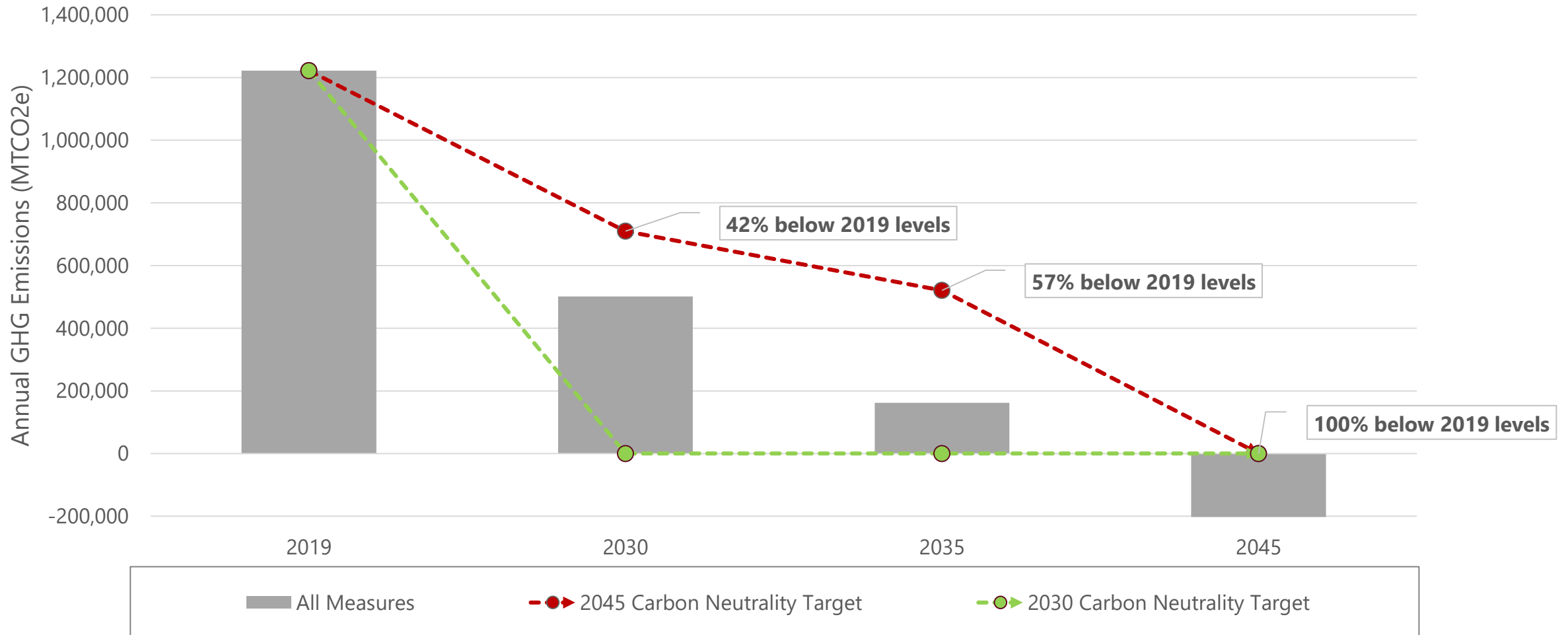


RCAAP GHG Reduction Target Pathways and Estimated GHG Reductions by Emissions Sector Excluding Carbon Sequestration-Related Reductions



RCAAP GHG Reduction Target Pathways

With Carbon Sequestration-Related Reductions



Percent of Total Measure Reductions

Excluding Carbon Sequestration

Measure Number	Description	2030	2035	2045
SW-4	Increase CH ₄ capture capacity to 85% by 2035 at local landfills.	32%	25%	25%
TR-9	Increase availability of renewable diesel.	10%	15%	18%
SW-1	Increase diversion of solid waste to achieve diversion of at least 80% of waste from landfills by 2035.	16%	14%	16%
AG-1	Reduce fossil fuel consumption in field equipment.	9%	12%	13%
WW-1	Reduce fugitive CH ₄ emissions from Wastewater Treatment Plants	11%	11%	11%
BE-1	Retrofit existing residential and non-residential buildings to net zero carbon	13%	15%	9%
Top Six Measures		90%	92%	92%
All Other Measures		10%	8%	8%
Total		100%	100%	100%

Offroad Vehicles & Equipment

- OF-1: Reduce landscaping-related emissions
- OF-2: Zero-Emission Loading Docks
- OF-3: Zero carbon construction equipment - Community.
- OF-4: Zero carbon construction equipment - Municipal.

Anthropogenic reductions in 2045: 11,525 MTCO₂e

- 2% of all reductions
- 3% of all anthropogenic reductions





Water & Wastewater

- WW-1: Reduce fugitive CH₄ emissions from Wastewater Treatment Plants

Anthropogenic reductions in 2045: 45,412 MTCO₂e

- 6% of all reductions
- 11% of all anthropogenic reductions

Building Energy

- BE-1 Develop a comprehensive program to transition existing residential and non-residential buildings to net zero carbon
 - Retrofit 25% of existing buildings by 2030 and 100% by 2045
- BE-3 Increase renewable energy generation and battery storage at existing land uses
- BE-5 Develop and adopt a Zero-Carbon Buildings Reach Code for New Construction

Anthropogenic reductions in 2045: 58,375 MTCO₂e

- 8% of all reductions
- 14% of all anthropogenic reductions





Transportation

- TR-2: Reduce emissions from “hold-and-haul” winery wastewater transportation
- TR-9: Increase availability of renewable diesel
- TR-10: Implement NVTA’s Active Transportation Plan
- TR-11: Expand Individual Trip TDM Programs

Anthropogenic reductions in 2045: 76,511 MTCO₂e

- 10% of all reductions
- 18% of all anthropogenic reductions



Solid Waste

- SW-1: Increase solid waste diversion to at least 80 percent of waste from landfills by 2035
- SW-4: Increase CH₄ capture capacity to 85 percent by 2035 at local landfills

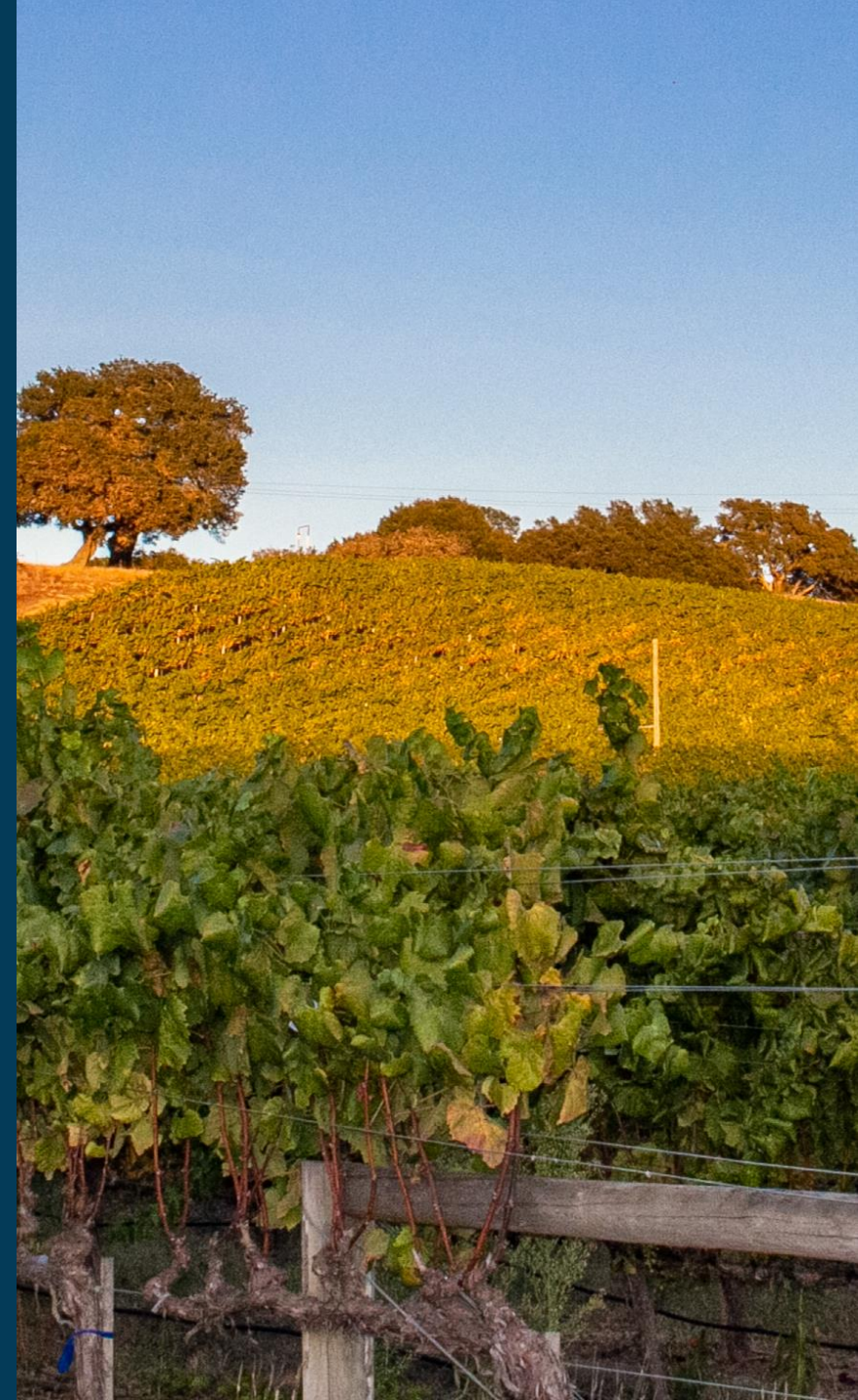
Anthropogenic reductions in 2045: 173,057 MTCO₂e

- 23% of all reductions
- 41% of all anthropogenic reductions

Agriculture and Open Space

- Includes 2 carbon sequestration measures (AG-6 and AG-7)
- AG-1: Reduce fossil fuel consumption in field equipment
- AG-6: Accelerate Woodland and Forest Habitat Restoration and Stewardship in Rural Areas
 - Assumes 20% of areas affected by wildfire are replanted by 2045
- AG-7: Increase sustainability certification in vineyards across the county

- Total reductions in 2045: 384,709 MTCO₂e
 - 51% of all reductions
- Anthropogenic reductions in 2045: 52,862 MTCO₂e
 - 13% of all anthropogenic reductions





Next Steps

- Recommended GHG Reduction Pathways (based on substantial evidence):
 - Statewide Scoping Plan Anthropogenic GHG Targets for 2030 and 2045
 - Carbon Neutral by 2045
- Cost and funding analyses underway, completed by early 2025.
 - Will provide information about relative costs of implementation and funding availability
 - Additional information re: feasibility of target pathways
- Draft RCAAP to be released for public review in Q1 2025.



Questions & Answers