SCTCA
Sonoma County Transportation and Climate Authorities

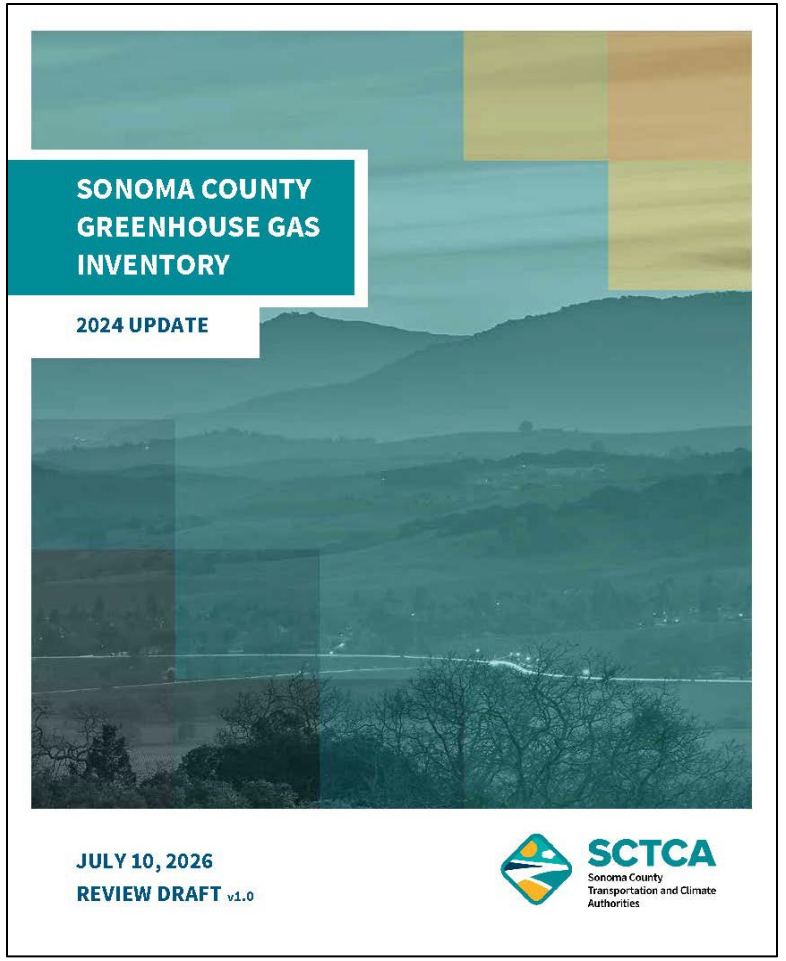
Sonoma Countywide
Greenhouse Gas Inventory - 2024 Update

Climate Action Advisory Committee
July 10, 2026

Tanya Narath, Chief Deputy Executive Director
Sonoma County Transportation and Climate Authorities

GHG Inventory Overview – 2024 Update

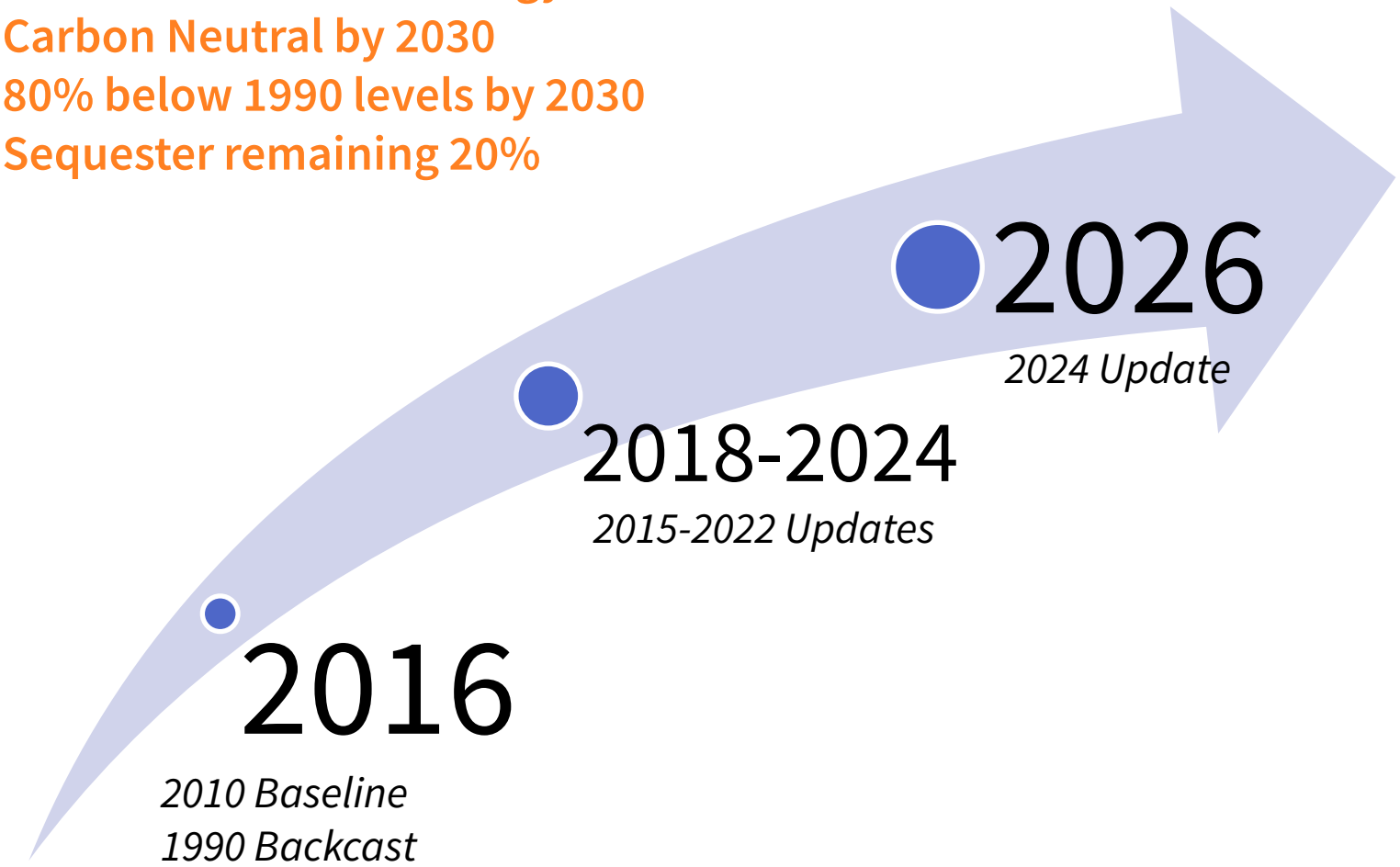
- Inventory Overview
  - By Year and Sector
  - Per Capita
- Emissions Sectors
  - Building Energy
  - Transportation
  - Solid Waste
  - Water-Related
  - Agriculture
- Key Findings and Conclusion



GHG Inventory Overview – Timeline

Climate Mobilization Strategy Goals

- Carbon Neutral by 2030
- 80% below 1990 levels by 2030
- Sequester remaining 20%

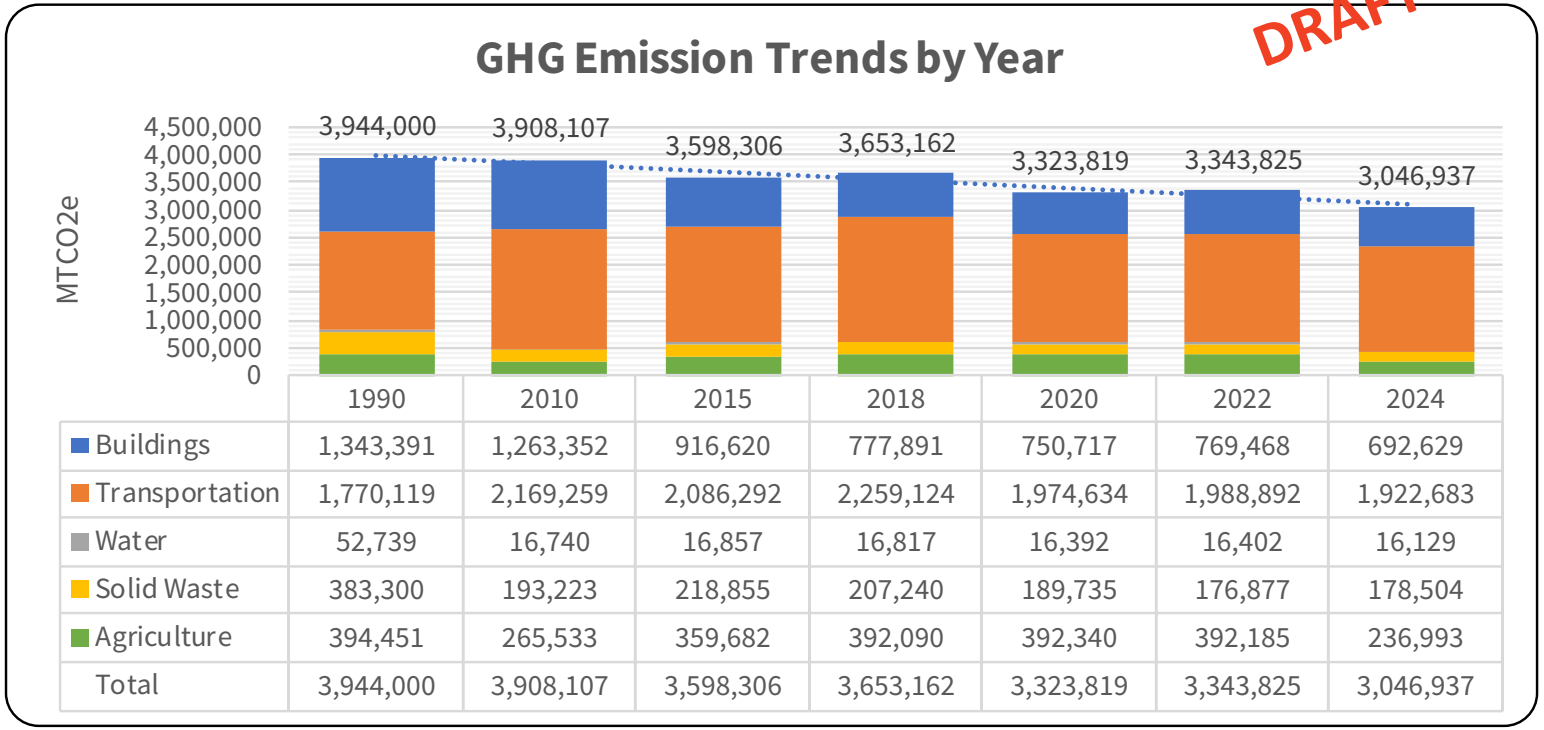


2024 Inventory Update

- July 2026 - Preliminary results shared with SCTCA committees
- August 10 – Final results shared with SCTCA Board
- 2024 results added to online GHG Dashboard after SCTCA Board approval

GHG Inventory Results – Emission Trends by Year

DRAFT RESULTS



	1990	2010	2015	2018	2020	2022	2024
Buildings	1,343,391	1,263,352	916,620	777,891	750,717	769,468	692,629
Transportation	1,770,119	2,169,259	2,086,292	2,259,124	1,974,634	1,988,892	1,922,683
Water	52,739	16,740	16,857	16,817	16,392	16,402	16,129
Solid Waste	383,300	193,223	218,855	207,240	189,735	176,877	178,504
Agriculture	394,451	265,533	359,682	392,090	392,340	392,185	236,993
Total	3,944,000	3,908,107	3,598,306	3,653,162	3,323,819	3,343,825	3,046,937

2024 Total Emissions: 3,046,937 MTCO2e

22.7% reduction from 1990 GHG Baseline

GHG Emission Sectors in Order of Magnitude

- Transportation 63.1%
- Buildings 22.7%
- Agriculture 7.8%
- Solid Waste 5.9%
- Water 0.5%

Continued Area of Focus:

- Transportation and Buildings 85.8%

GHG Inventory Results – Emission Trends by Sector

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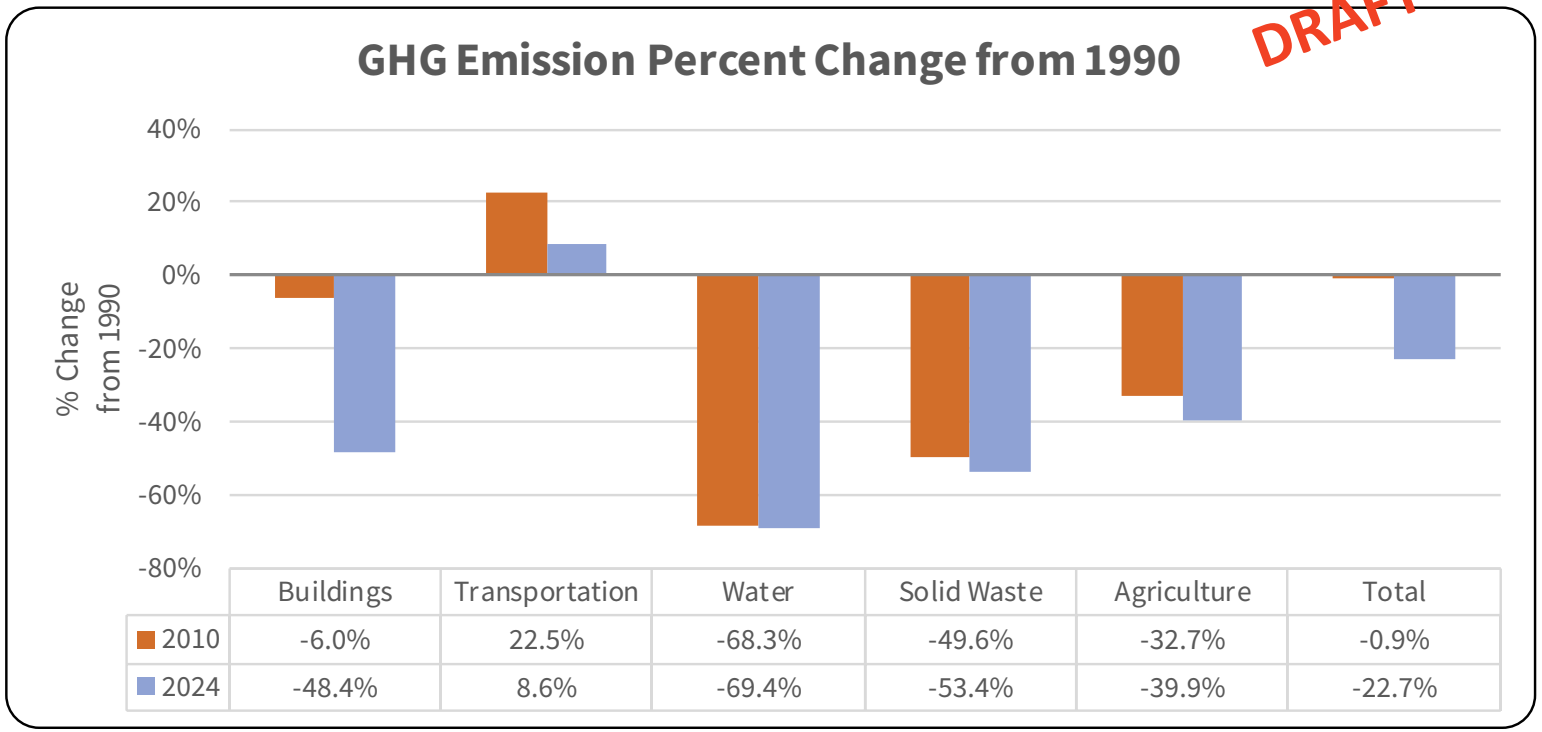


	Buildings	Transportation	Water	Solid Waste	Agriculture	Total
2010	-6.0%	22.5%	-68.3%	-49.6%	-32.7%	-0.9%
2024	-48.4%	8.6%	-69.4%	-53.4%	-39.9%	-22.7%

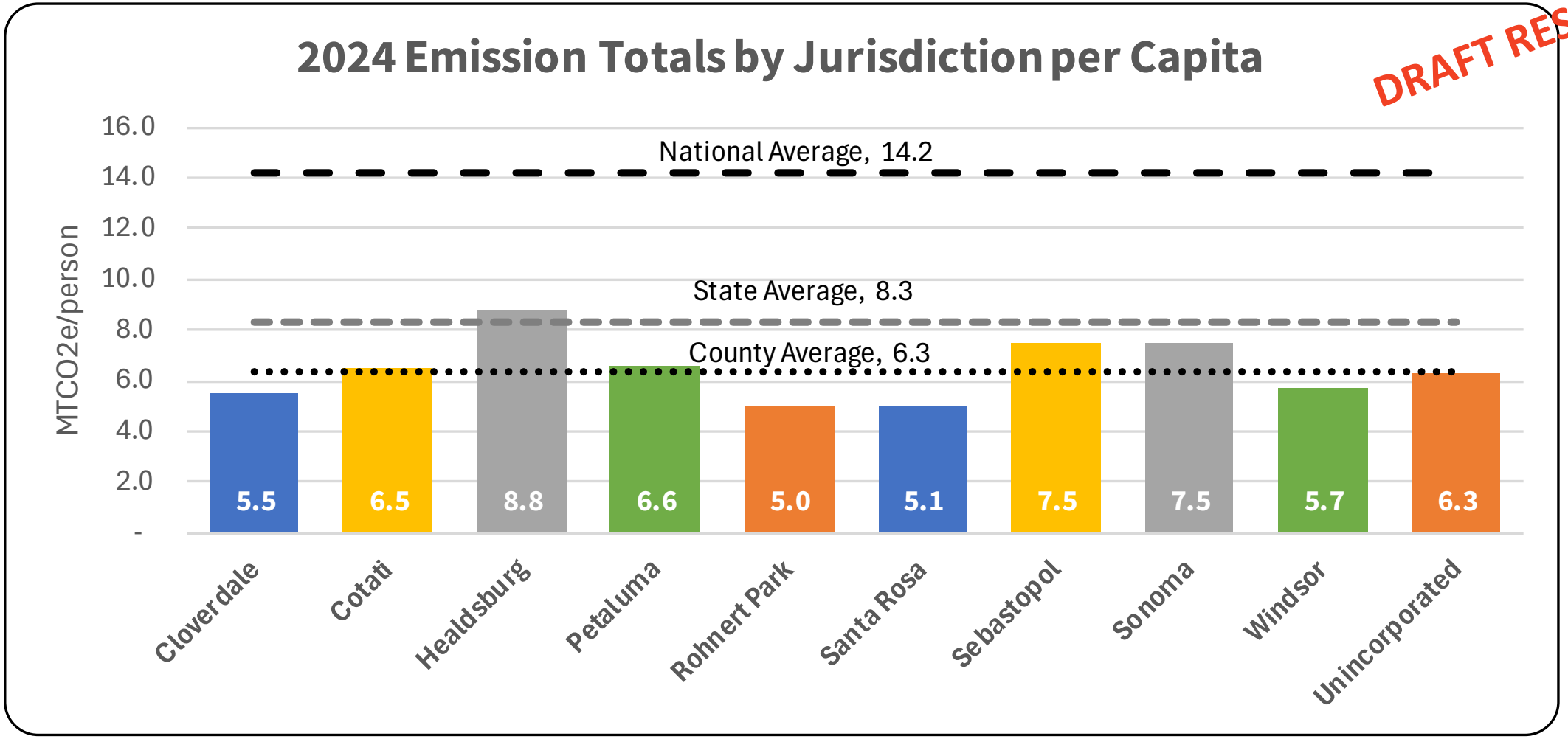
2024 Total Emissions: 3,046,937 MTCO2e

22.7% reduction from 1990 GHG Baseline

State and Countywide Emission Reduction Goals

- 40% below 1990 by 2030 (2016 CA Senate Bill 32)
- 48% below 1990 by 2030 (2022 CARB Climate Change Scoping Plan)
- 80% below 1990 by 2030 (2021 SCTCA Sonoma Climate Mobilization Carbon Neutrality Goal)
- 85% below 1990 by 2045 (2018 CA Governor Executive Order B-55-18)

GHG Inventory Results – Emissions per Capita



GHG Inventory Results – Building Energy Emissions

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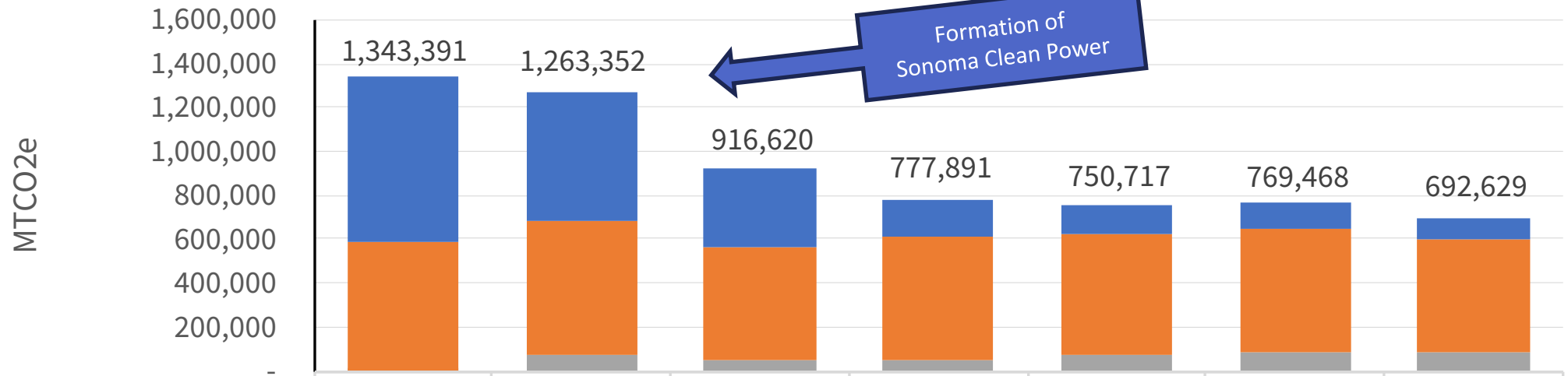
Building Energy Emission Trends



	1990	2010	2015	2018	2020	2022	2024
Electricity	759,711	575,483	358,547	161,798	127,543	122,400	93,374
Natural Gas	577,548	614,248	511,736	565,552	551,074	565,264	516,232
Stationary Sources	6,133	73,621	46,336	50,541	72,100	81,804	83,023
Total	1,343,391	1,263,352	916,620	777,891	750,717	769,468	692,629

Building Energy Emissions – Key Findings

DRAFT RESULTS

- **<u>Building Energy Emissions</u>** are 10 percent lower than in 2022 and 48.4 percent lower than in 1990
  - Generation of electricity from natural gas has been driven down statewide by increases in utility-scale solar generation and battery storage capacity
  - Residential electricity demand is lowered due to installation of solar PV systems with battery storage, allowing owners to use daytime PV production into the evening time-of-use periods
  - Despite these advances, California's peak electricity demand is projected to rise by roughly half by 2045, driven by increases in electric vehicles, data centers, and building electrification

GHG Inventory Results – Transportation Emissions

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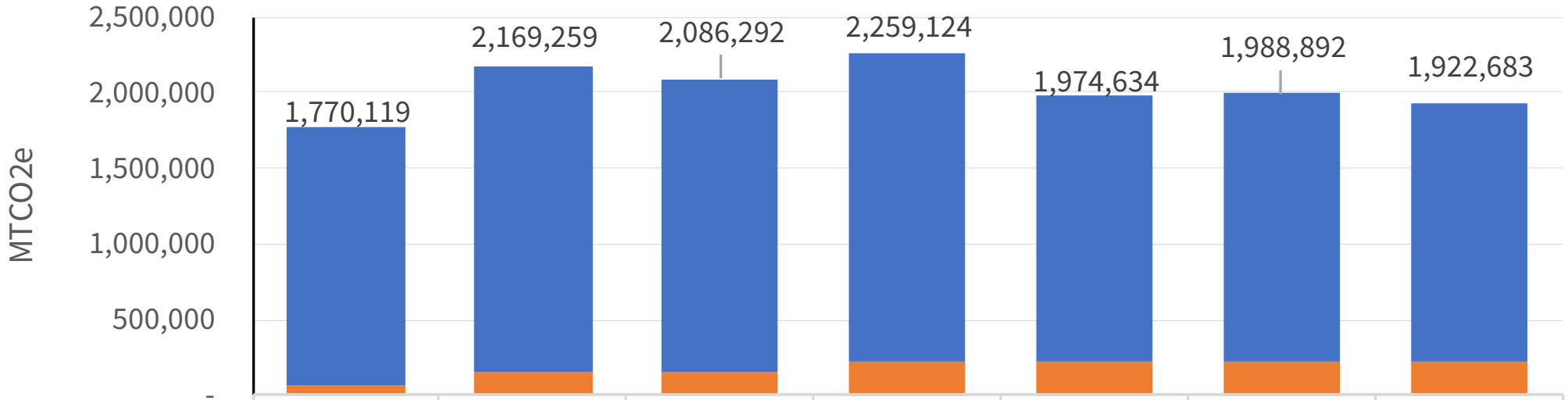
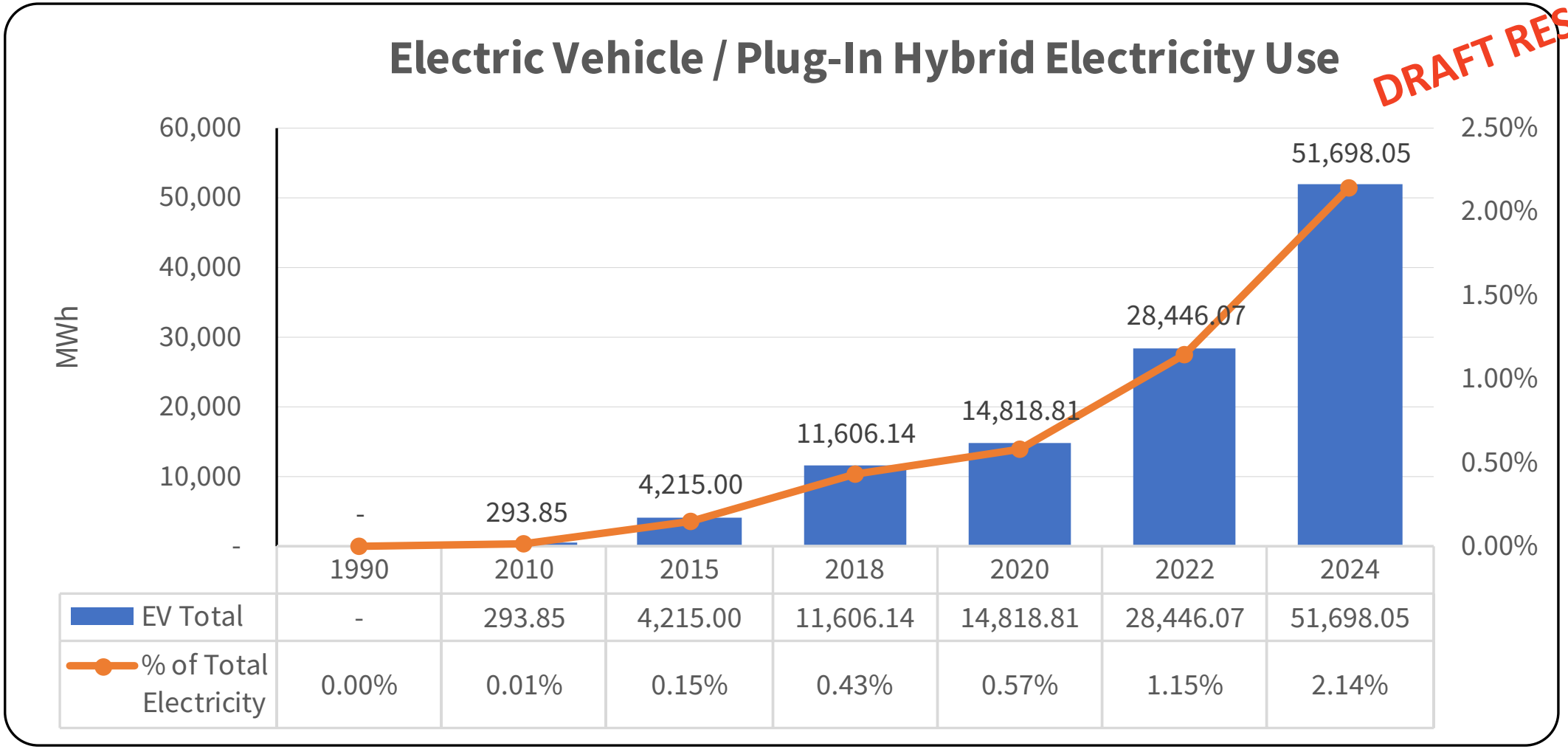
Transportation Emission Trends



	1990	2010	2015	2018	2020	2022	2024
On-Road	1,712,963	2,025,532	1,931,597	2,045,905	1,759,954	1,770,847	1,702,836
Off-Road	57,156	143,727	154,696	211,239	213,589	215,039	217,577
Passenger Rail	-	-	-	1,979	1,092	3,006	2,270
Total	1,770,119	2,169,259	2,086,292	2,259,124	1,974,634	1,988,892	1,922,683

GHG Inventory Results – Transportation Emissions



Transportation Emissions – Key Findings

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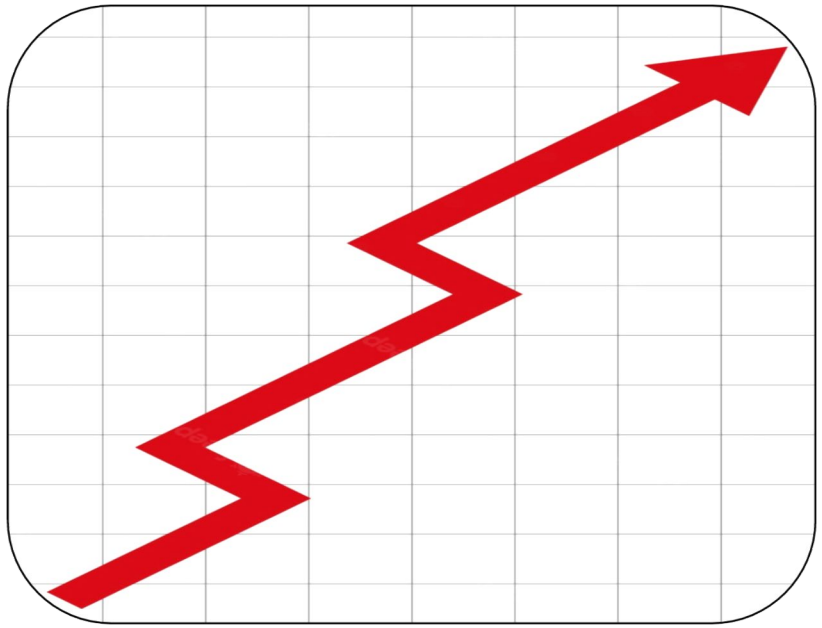
- **<u>Transportation Emissions</u>** are 3.3 percent lower than in 2022 but 8.6 percent higher than in 1990
  - Countywide VMT is lower than 2022 but still much higher than in 1990
  - Countywide VMT remains lower than pre-COVID-19 levels, possibly due to the effects of continued telecommuting
  - Gasoline-powered vehicles have continued to become more efficient over the years



GHG Inventory Results – Water-Related Emissions

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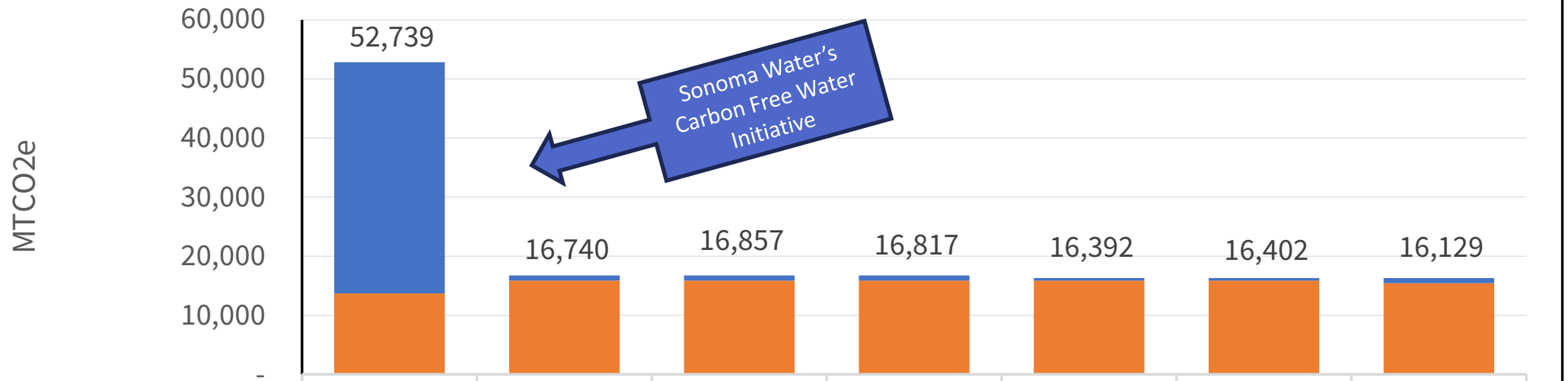
Water and Wastewater Emission Trends



	1990	2010	2015	2018	2020	2022	2024
Water Conveyance	39,188	977	983	973	647	711	547
Waste Water	13,551	15,763	15,874	15,844	15,745	15,691	15,582
Total	52,739	16,740	16,857	16,817	16,392	16,402	16,129

Water-Related Emissions – Key Findings

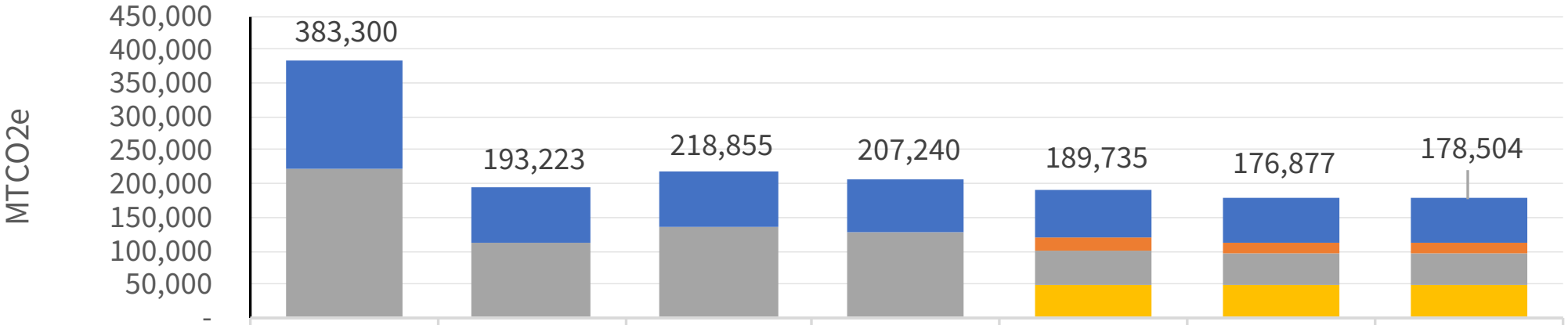
DRAFT RESULTS

- **<u>Water-Related Emissions</u>** are 1.7 percent lower than in 2022 and 69.4 percent lower than in 1990
  - Water use efficiency programs continue to lower overall water demand
  - Pumping and wastewater treatment increasingly rely on 100% renewable energy
  - Additional energy-related improvements may be available through improved operations at the wastewater treatment plants located throughout Sonoma County

GHG Inventory Results – Solid Waste Emissions

DRAFT RESULTS

Solid Waste Emission Trends



	1990	2010	2015	2018	2020	2022	2024
Residential SF	160,474	80,359	84,012	79,382	69,070	64,390	64,982
Residential MF	-	-	-	-	18,721	17,452	17,613
Commercial	222,826	112,864	134,843	127,858	51,460	47,973	48,414
Self Haul	-	-	-	-	50,484	47,062	47,495
Total	383,300	193,223	218,855	207,240	189,735	176,877	178,504

Solid Waste Emissions – Key Findings

DRAFT RESULTS

- **Solid Waste Emissions** are higher by 0.9 percent than in 2022 but 53.4 percent lower than in 1990
  - Solid waste collection amounts were up just slightly compared with 2022 values, but are dramatically decreased compared to 1990
  - Increased diversion of organic material into the compost stream to lower methane emissions has been slower than expected and is not expected to meet SB 1383 goals

GHG Inventory Results – Agriculture Emissions

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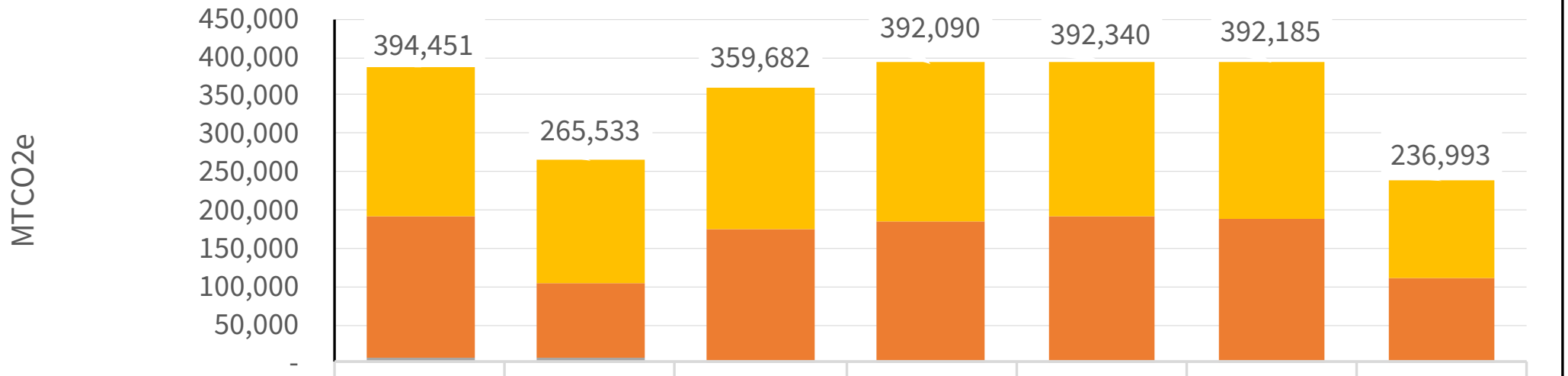


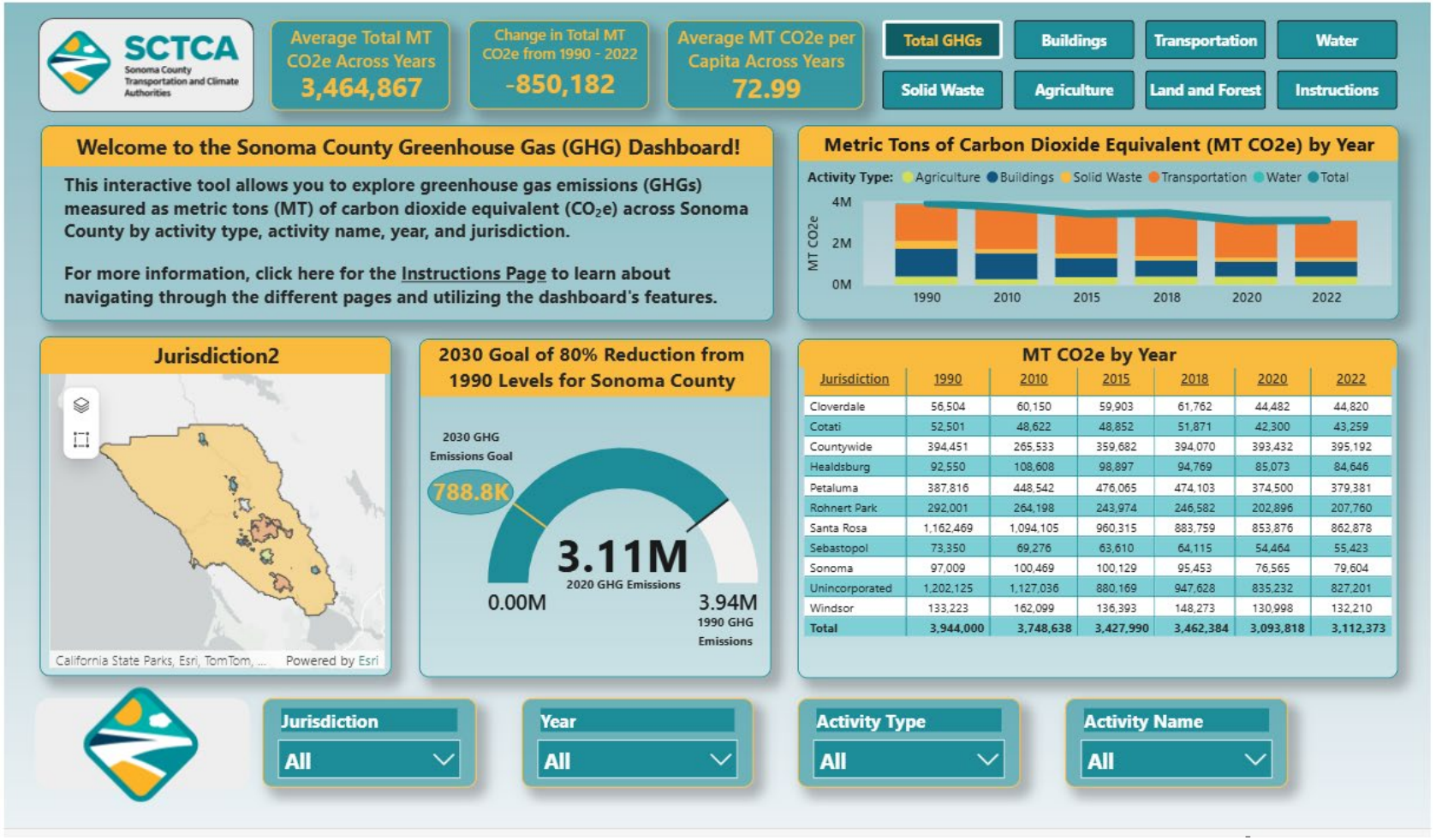
	1990	2010	2015	2018	2020	2022	2024
Enteric Fermentation	201,405	162,142	185,866	207,955	202,262	202,769	126,226
Manure Management	186,786	96,160	169,576	180,130	186,209	185,309	107,176
Fertilizer Application	6,259	7,230	4,240	4,005	3,869	4,108	3,591
Total	394,451	265,533	359,682	392,090	392,340	392,185	236,993

Agriculture Emissions – Key Findings

DRAFT RESULTS

- **<u>Agriculture Emissions</u>** are 39.6 percent lower than in 2022 and 39.9 percent lower than in 1990
  - Reduced acreage for crop production has resulted in lowered fertilizer use and emissions
  - Reduced livestock counts have led to lowered emissions from both manure management and enteric fermentation
  - Responding to the recent declines in agricultural acreage and product values, the County of Sonoma is working to support the local agricultural industry amid mounting economic and environmental pressures, formally declaring agriculture and working lands as critical infrastructure that is essential to the county's economy, environment and food security

GHG Inventory Overview – Online Dashboard



Available online:

- https://rcpa.ca.gov/what-we-do/countywide-ghg-inventory/ghg-dashboard/
- Current with 2022 data
- To be updated with 2024 data shortly
- Detailed tabs for each greenhouse gas sector
- Includes countywide land cover data for evaluation of local sequestration potential

Total Countywide Emissions – Key Findings

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- **Total Countywide Emissions** are 8.9 percent lower than in 2022 and 22.7 percent lower than in 1990
  - Emissions have returned to a downward trend after an increase in 2022 following COVID-19
  - All sectors show dramatic decreases from 1990 levels except for transportation
  - Even with these sustained emission reductions, prospects for reaching countywide carbon neutrality by 2030 are increasingly improbable and this goal may need to be reassessed

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Thank You!

Questions?

Tanya Narath
Chief Deputy Executive Director
Sonoma County Transportation and Climate Authorities
707-565-5361
Tanya.Narath@rcpa.ca.gov