

EAGLE COUNTY COMMUNITY ENERGY INVENTORY



EAGLE COUNTY

2024 DATA ON ENERGY USE AND EMISSIONS

KEY FINDINGS

Eagle County's **greenhouse gas emissions** (GHG) in 2024 totaled 1.195 million metric tons of carbon dioxide equivalent (CO₂e), an 11% decrease from the 2014 baseline. Most emissions continue to come from buildings and ground transportation. While supporting reductions in all areas that emit greenhouse gases are important, focusing on these sectors will generate the greatest impacts.

In the **built environment**, electricity emissions have decreased by 66% and natural gas emissions have increased by 9% since 2014. Holy Cross Energy (HCE) and Xcel Energy are making strides toward cleaner electricity grids and have supported the electricity reduction. As of 2024, HCE reports an 80% renewable grid and is making progress toward even higher levels. There is still significant room for improvement through updated building codes and funding or incentive programs that encourage weatherization and electrification of homes, businesses, and government buildings.

Eagle County's **transportation emissions** had less than a 1% increase over the baseline. This shows significant improvement to the increases seen in recent years. The calculations for 2024 differ slightly than those in recent years due to the change in availability of transportation data from recent sources. The most effective tactics to decrease transportation emissions are to increase public transit ridership, electric vehicle adoption, and improvements to EV charging infrastructure. EVs now account for 2.6% of vehicle registrations in the County, slightly less than the statewide proportion of 3.2%.

Solid waste emissions have increased by 1.4% compared to 2014. This is the result of a 4% annual increase in landfilled waste and about a 9% increase in diverted waste from efforts such as recycling, composting, and reusing materials. Efforts to achieve further reductions can be highly visible, which results in an increase in public awareness and satisfaction, although waste accounts for only 8% of the County's emissions.

The inventory includes an analysis performed by Walking Mountains that quantifies the estimated emissions and removals from the **Agriculture, Forestry and Other Land Use (AFOLU) sector**. Findings from the most recent dataset (2019-2021), show that the AFOLU sector removed an estimated annual net total of 202,000 MT CO₂e from the atmosphere. This data highlights the impact of the AFOLU sector on total emissions for the County and the value of protecting and conserving natural assets.

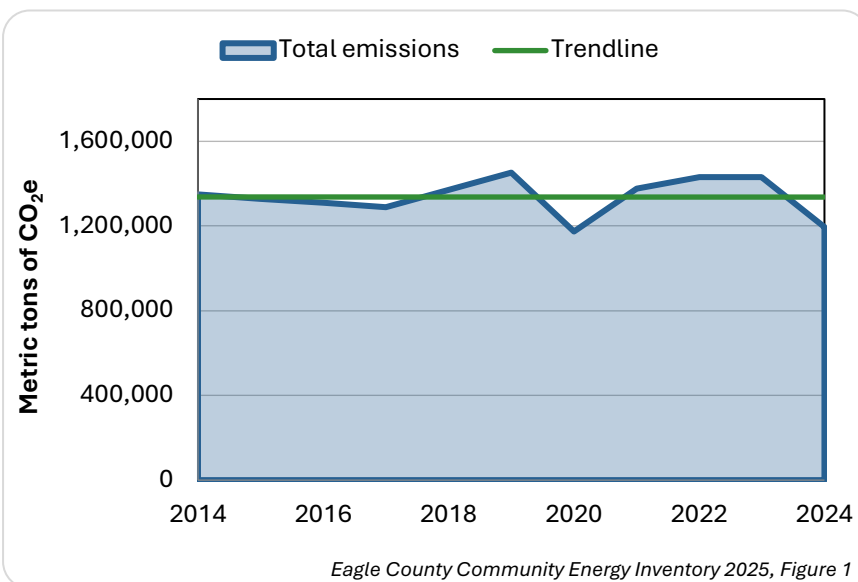
This year's inventory shows the first tangible decrease since the County began tracking emissions, highlighting the progress made to affect change. With significant decarbonization already achieved in the electric grid—thanks largely to Holy Cross Energy—further reductions will need to focus on buildings and transportation. This includes direct strategies and investments that support and incentivize retrofits to existing and aging buildings, large building electrification, and rapid adoption of EVs, among other measures.

OVERVIEW OF EMISSIONS

1. TOTAL EMISSIONS, 2014-2024

Eagle County set goals of reducing emissions 25% by 2025 and 50% by 2030, compared to 2014 levels. As of 2024, emissions have decreased by over 11% compared to 2014.

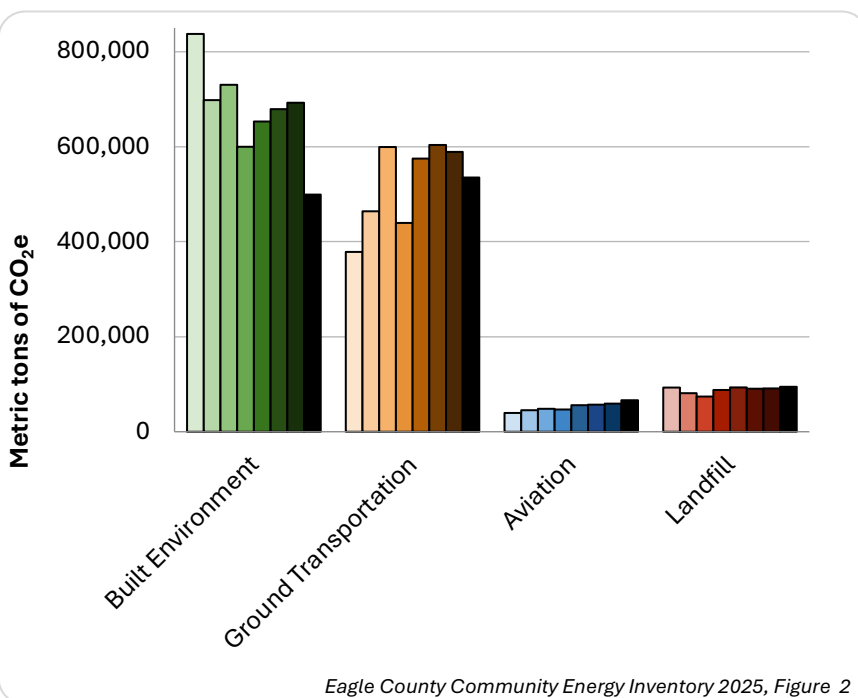
This progress is mainly attributed to Holy Cross Energy's cleaner grid. To further reduce emissions, the community will need to make significant changes to energy use totals and transportation.



2. CHANGE IN EMISSIONS BY SECTOR, 2014-2024

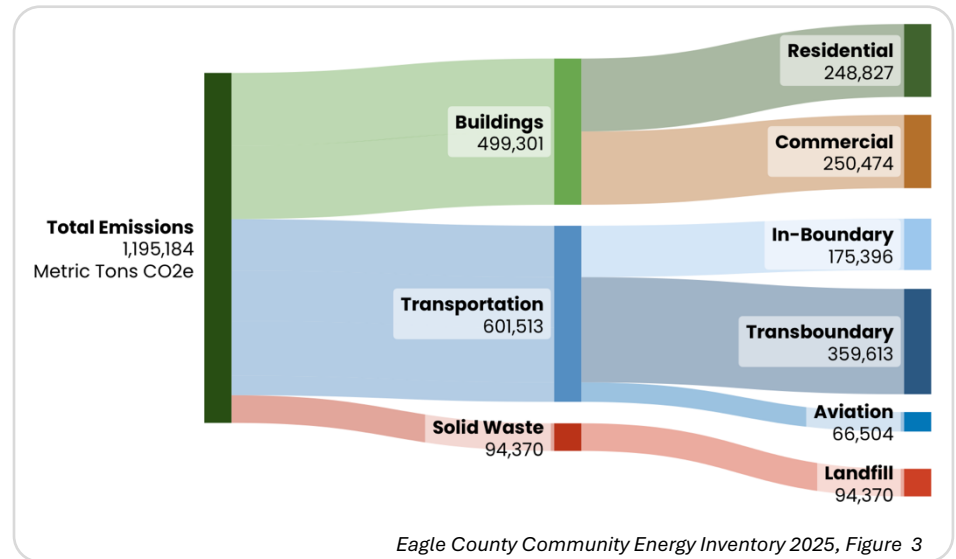
The built environment has seen a significant emissions decrease of 40% since 2014. Building energy use has been steadily increasing over the last four years, presumably due to population and development, but this rise has been more than offset by an increasingly clean electricity grid.

Transportation saw a continued decrease in emissions this year, showing a 9% decrease over 2023. Transportation is, however, still showing a 41% increase over 2014 due to a steady increase in vehicle miles traveled and increased accuracy in transportation reporting. Aviation and landfill emissions make up a small portion of total emissions. However, these sectors collectively increased 20% over 2014.



3. TOTAL EMISSIONS BY END USE, 2024

Figure 3 breaks down the major emissions-producing sectors by end-use. Notably, commercial buildings account for slightly more emissions than residential buildings. The largest share of transportation emissions results from “transboundary” travel, presumably due to daily commuters and tourists traveling to and from Eagle County. (This is discussed in more detail in the transportation section.)



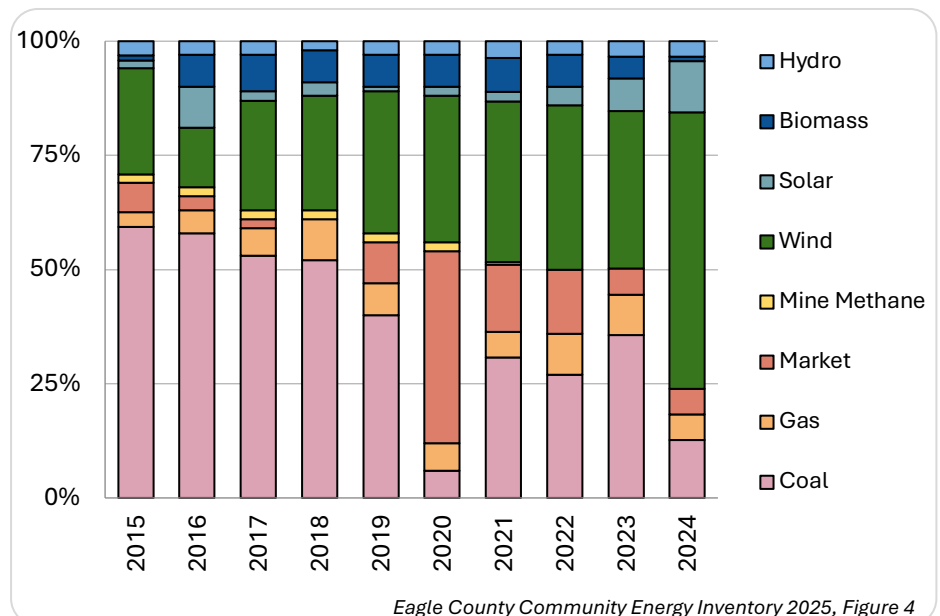
Public transit, though normally a small portion of transportation, was not singled out this year due to data availability historically public transit has made up just over 1% of vehicle emissions. As of 2024, Eagle County’s public transit is mostly free and the large increases in ridership seen by CORE Transit since 2021 may be a contributing factor in the emissions reductions seen in the sector this year.

ELECTRIC ENERGY EMISSIONS

4. HOLY CROSS ENERGY ELECTRICITY BY SOURCES, 2015-2024

Holy Cross Energy provides 99% of the electricity consumed by Eagle County residents and therefore has the greatest impact on electric energy emissions for the building sector. As of 2024, the utility has upped its share of renewable energy to 80% and continues to increase it.

As of 2023, HCE owned 2.7 MW of solar capacity and held power purchase agreements for several small renewable sources located in or near its service territory, including 8 hydroelectric generators, 16 commercial solar arrays, and a



12 MW biomass plant. For the remaining grid power, HCE has long-term power supply commitments through contracts with Public Service Company of Colorado (a subsidiary of Xcel Energy), owns an 8% share in Unit 3 at the Comanche Generating Station located in Pueblo, and purchases hydropower from the Western Area Power Administration. “Market” energy is procured to offset any overages and the generation sources cannot be identified with a high level of certainty.

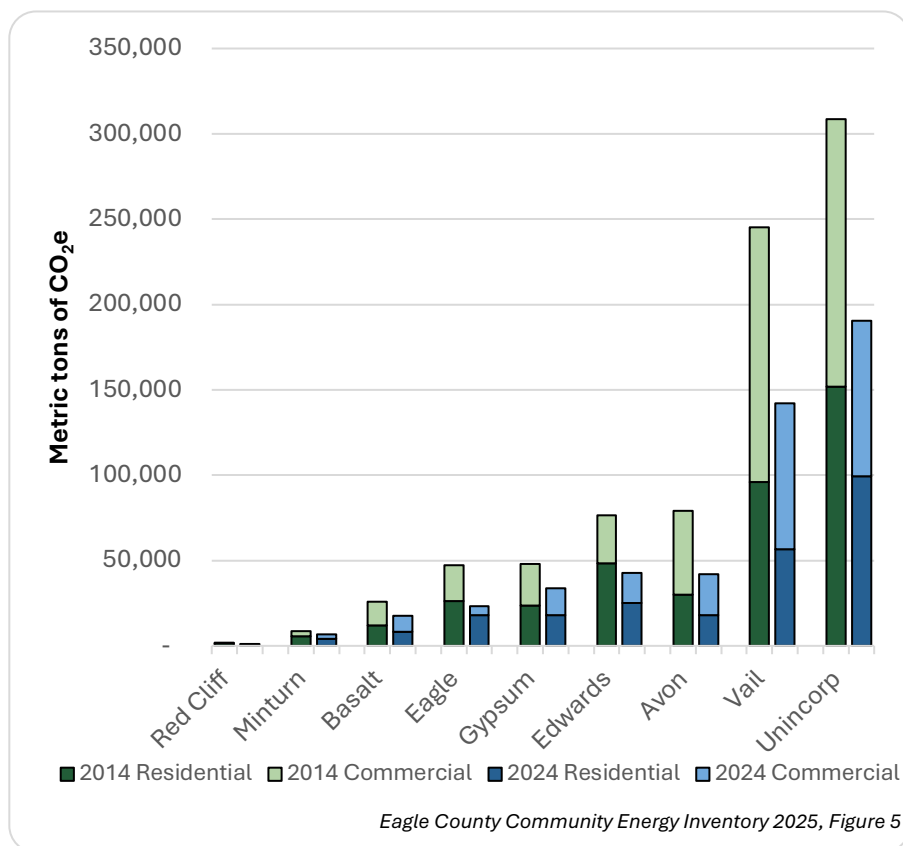
EMISSIONS FROM THE BUILT ENVIRONMENT

5. BUILT ENVIRONMENT EMISSIONS BY COMMUNITY, 2014 VS. 2024

Due to Holy Cross Energy’s increasing renewables, each major community in Eagle County has decreased its building emissions as of 2024. As highlighted in Figure 5, the most significant reductions have been in commercial buildings, although residential emissions have reduced substantially as well. Commercial buildings are designated by the utilities, and include hotels, multifamily complexes with a single meter, recreational facilities (e.g., ski lifts and snowmaking equipment), government buildings, schools, retail, industrial, and manufacturing facilities.

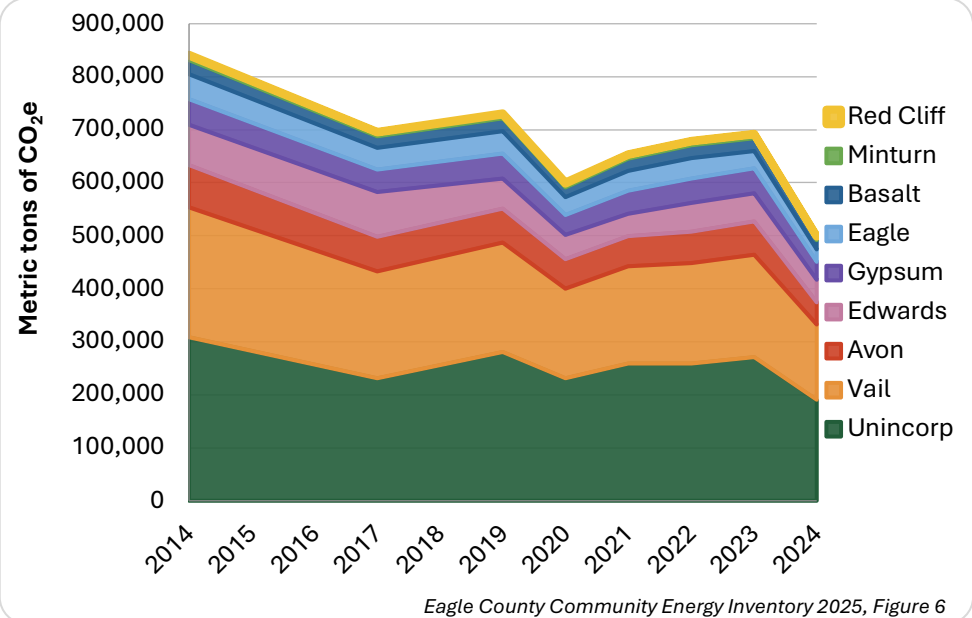
While Edwards is unincorporated, its emissions can be tracked separately by analyzing data for

the 81632 zip code area, which has been done for all of Eagle County’s reports. That is not the case for all other unincorporated parts of the County, including Eagle-Vail, El Jebel, McCoy, Bond, Wolcott, and Burns, which are aggregated in the “Unincorp” category. These unincorporated areas have a higher population and more housing units than any of the County’s individual municipalities. The unincorporated category showed an extra increase in commercial emissions for 2023 and 2024 because Black Hills Energy combined its commercial data for the Town of Eagle with the unincorporated totals to comply with the 15/15 customer privacy rule ([explained below](#)).



6. BUILDING EMISSIONS BY COMMUNITY, 2014-2024

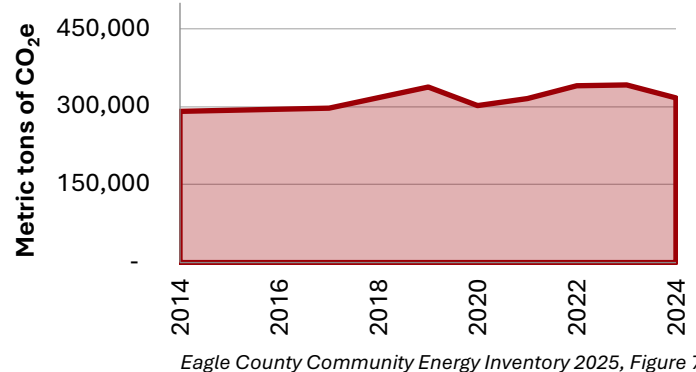
Since 2014, emissions have decreased below the artificially low emissions of 2020. This change has made a tangible impact on the overall emissions and is largely due to Holy Cross Energy's decarbonization.



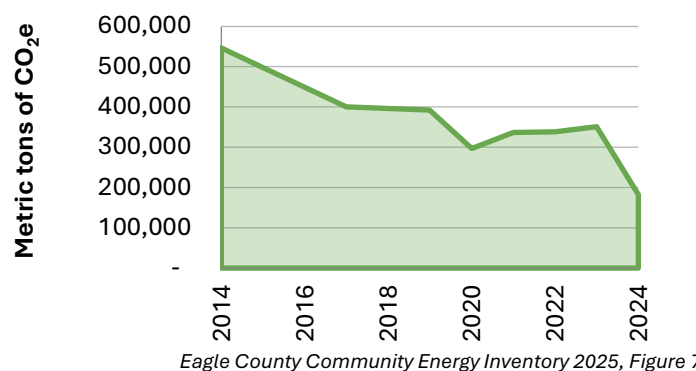
7. BUILDING EMISSIONS BY FUEL OVER TIME, 2014-2024

Since 2014, the County has seen significant growth in its building stock. Despite this growth, changes in electric supply have resulted in cleaner electricity and reduced emissions. On the other hand, natural gas emissions have continued to rise with the growth. Focusing on decarbonizing energy use in buildings can significantly reduce emissions. Improving weatherization and implementing energy management programs will help adapt buildings and the grid to the rising electric demand that will result from electrification.

a. Natural Gas emissions over time



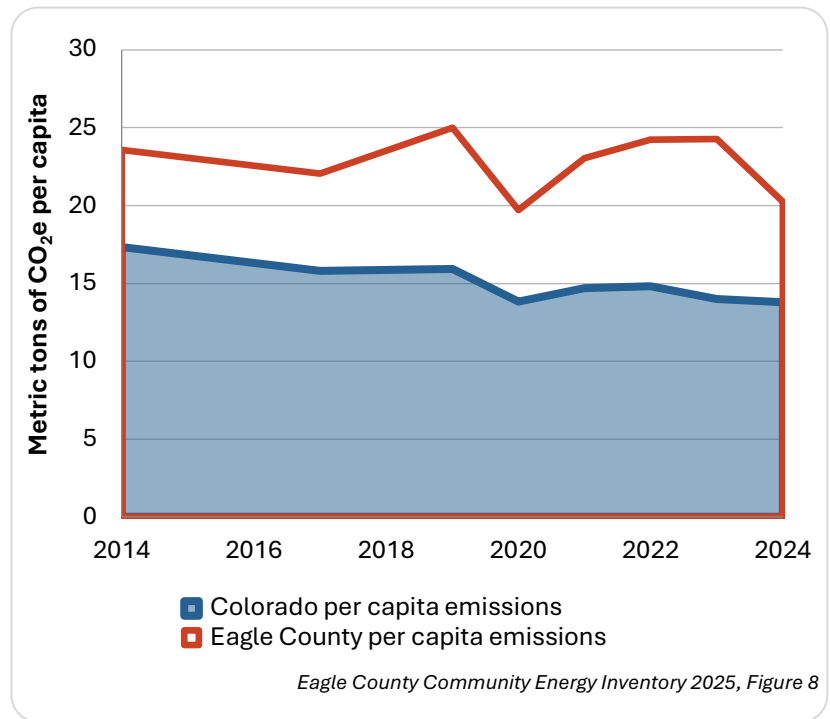
b. Electricity emissions over time



8. EMISSIONS PER CAPITA. 2014-2024

Per capita, greenhouse gas emissions have historically been higher in Eagle County than the Colorado average— 20 mt CO₂e compared with 14 mt CO₂e. Contributing factors include: transportation and commute emissions are nearly double the state average; second homes, which make up an estimated one-third of all housing stock; and lodging, which contributes emissions from visitors who are not counted in the permanent population.

Because Eagle County’s emissions include those from resort visitors and year-round tourism, per-capita comparisons with other communities may be less meaningful, but they are included to show changes over time relative to the state. Due to grid improvements, the gap between Eagle County and the State is shrinking.



9. COMMERCIAL BUILDINGS IN EAGLE COUNTY

Following the enactment of Colorado’s “[Energy Performance for Buildings](#)” statute (HB21-1286) in 2023, owners of commercial, multifamily, and public buildings 50,000 sq. ft. or larger are required to annually benchmark their whole-building energy use and meet building performance targets. Of the 4,404 commercial buildings in Eagle County, 67 are subject to this requirement, including hospitals, lodging, multifamily housing, schools, and large retail buildings.

Though the commercial buildings make up a very small proportion of the total buildings, their footprint covers 28% of the total commercial building square footage in the county and subsequently has a large impact.

Building square footage	Number of buildings	Percent of sq ft
>50,000	67	28%
40,000-49,999	19	4%
30,000-39,999	31	5%
20,000-29,999	70	9%
10,000-19,999	231	17%
5,000-9,999	333	12%
500-4,999	2,568	23%
0-499	1,085	1%
Total Commercial Buildings	4,404	

Eagle County Community Energy Inventory 2025, Figure 9

Commercial emissions make up 21% of the county’s total. This is similar to the state which has targeted these biggest buildings for benchmarking, building required to comply with the state can be found through the [state compliance tool](#). Benchmarking tracks energy use and estimates emissions. As buildings become

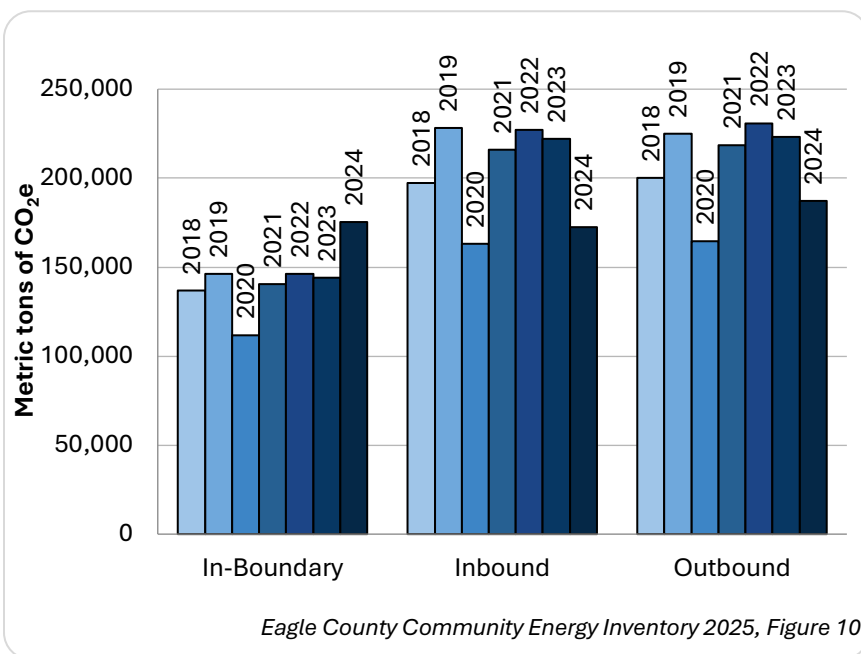
more efficient and use less energy, their emissions decrease. Emissions increase exponentially as the square footage of a building increases, according to a [Pitkin County study](#), so reductions in the largest buildings will provide noticeable results.

TRANSPORTATION ENERGY USE AND EMISSIONS

10. TRANSPORTATION EMISSIONS BY TRIP TYPE, 2019-2024

Transportation emissions declined by 9% from 2023 to 2024. However, reductions this year show a negligible increase of 0.1% since 2018.

Transportation data for 2018-2023 was collected using Google's Environmental Insights Explorer (EIE), which uses location services on individuals' electronic devices to estimate vehicle miles traveled and emissions in three categories: 1) in-boundary (trips that start and end within Eagle County), 2) inbound (trips into the County from elsewhere), and 3) outbound (trips out of the County). This data became available in 2018 and is more accurate than the pre-2018 data set, which was derived indirectly from CDOT trip data.



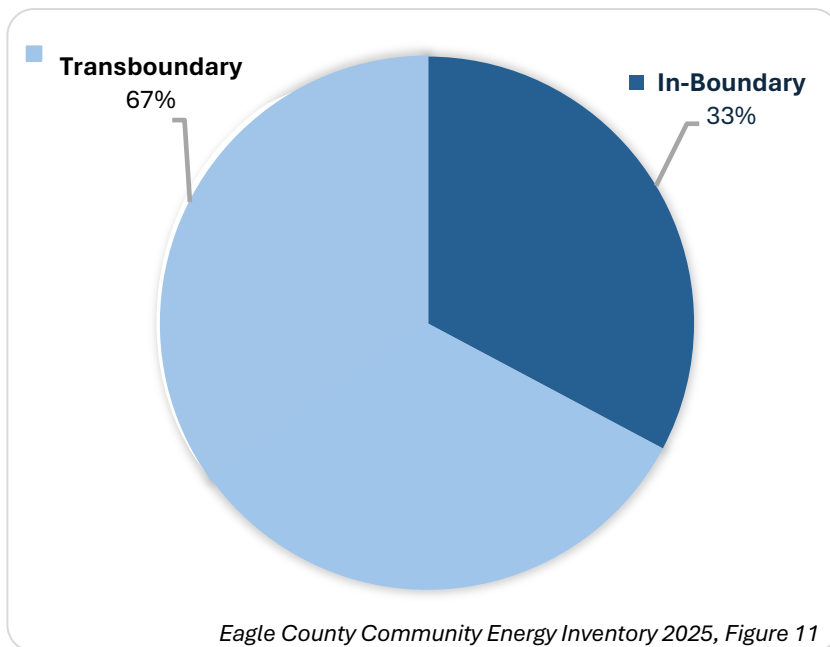
Data for 2024 was not available from EIE. To obtain the most accurate calculations for this year, mileage was sourced and analyzed through data provided for state highways through CDOT's Online Transportation Information System (OTIS) to determine the transboundary totals. A platform called Streetlight Data was used to estimate the in-boundary mileage through a series of origin-destination reports. Despite the change in dataset, CLEER is confident in the accuracy and consistency of the data provided.

11. TRANSPORTATION EMISSIONS BY TRIP TYPE, 2024

The updated data sets for this year show an increase to in-boundary transportation emissions. However, the greatest portion of transportation emissions remains the result of transboundary travel, much of which can be attributed to commuter trips and tourism.

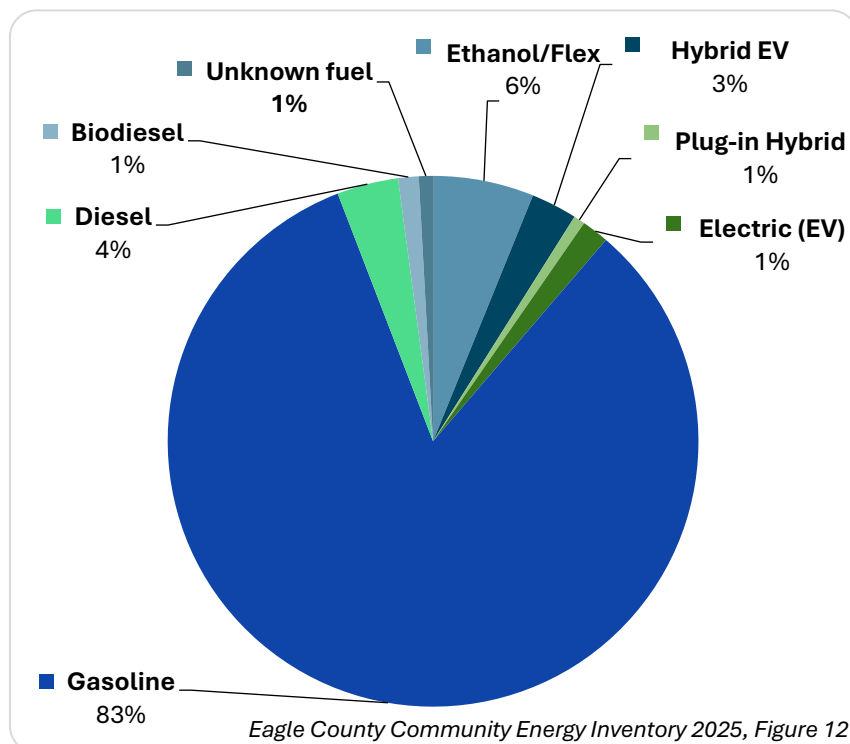
What may be most important to the county is that 1/3 of emissions are from residents, the remaining 2/3 of transportation emissions come from commuters and visitors. Addressing emissions from transboundary sources might be attempted through tourism fees that support infrastructure upgrades or rebates, as well as by supporting mode share for commuters.

Efforts to reduce local transportation emissions will need to focus on increasing public transit ridership, electric vehicle adoption, and EV charging infrastructure.



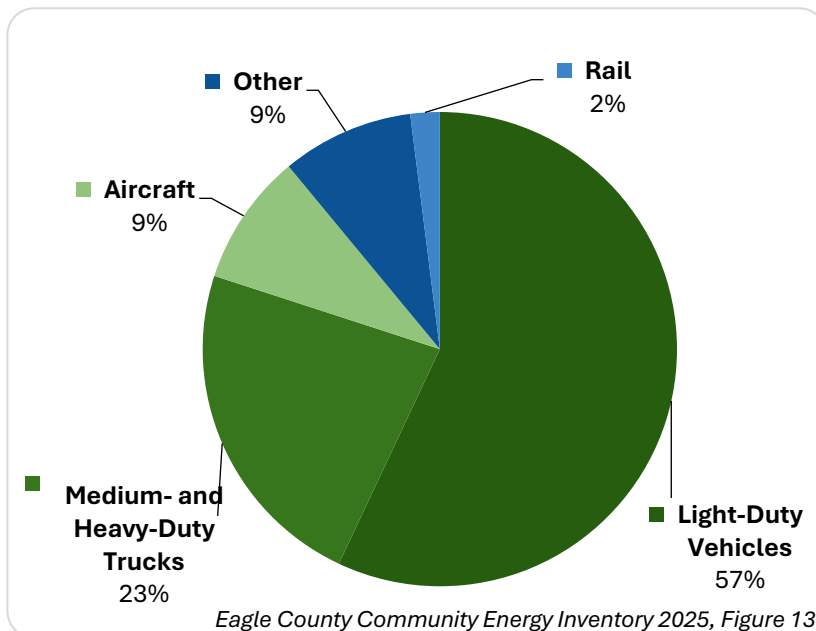
12. TYPES OF VEHICLES REGISTERED IN COLORADO

While a breakdown of transportation emissions by vehicle type is not available at the county level, the relative proportions for Eagle County are believed to be consistent with state and national figures. The most recent update from the State of Colorado, using 2023 data, breaks down the types of vehicles registered in the State by fuel use. These percentages, in addition to fuel efficiency and mileage estimates, are used to calculate vehicle emissions from travel in Eagle County.



13. U.S. TRANSPORTATION SECTOR EMISSIONS BY SOURCE

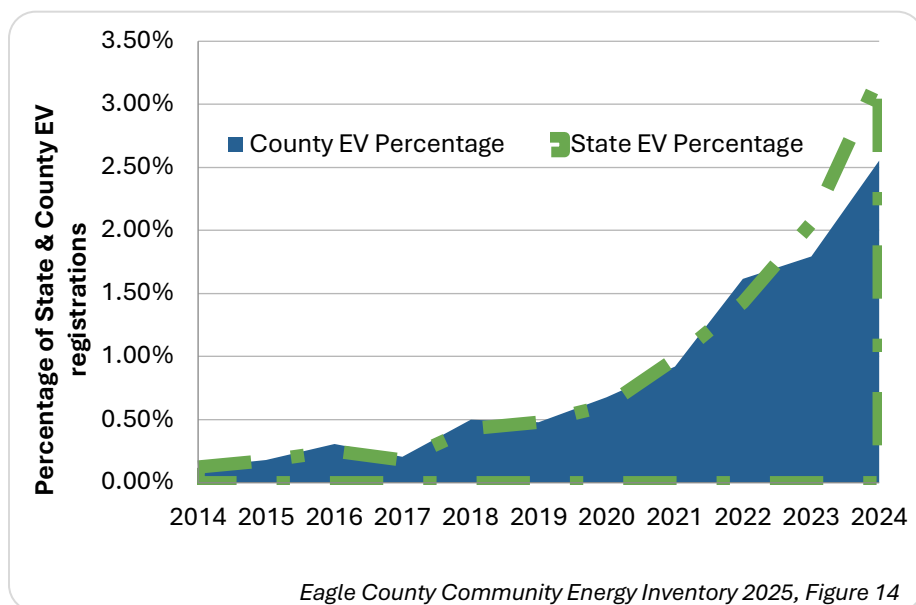
Nationally, light-duty vehicles (including passenger cars and light-duty trucks) are the largest emitting vehicle category. These, combined with medium- and heavy-duty trucks, account for 80% of national transportation emissions. These figures from the Environmental Protection Agency (EPA) were last updated in 2022.



14. EVS REGISTERED ANNUALLY, 2014-2024, EAGLE COUNTY VS. COLORADO

Electric vehicles (EVs) accounted for 2.6% of all registered vehicles in Eagle County in 2024, comparable to the state figure of 3.2%. This data includes both plug-in hybrid vehicles and battery-electric vehicles. Similarly, the County's EV adoption rate has tracked very closely with the state's since 2014, showing a slow down for the first time in 2024.

Incentives for residents and organizations can help achieve the 2% annual increase in EV adoption as detailed in the Eagle



County Electric Vehicle Infrastructure Plan by Climate Action Collaborative . With the state and federal incentives being reduced or eliminated in 2025, the rate of adoption may show a slight temporary surge and subsequently slow over the next couple of years.

SOLID WASTE EMISSIONS

15. AGGREGATED EAGLE COUNTY SOLID WASTE BY CATEGORY, 2014-2024

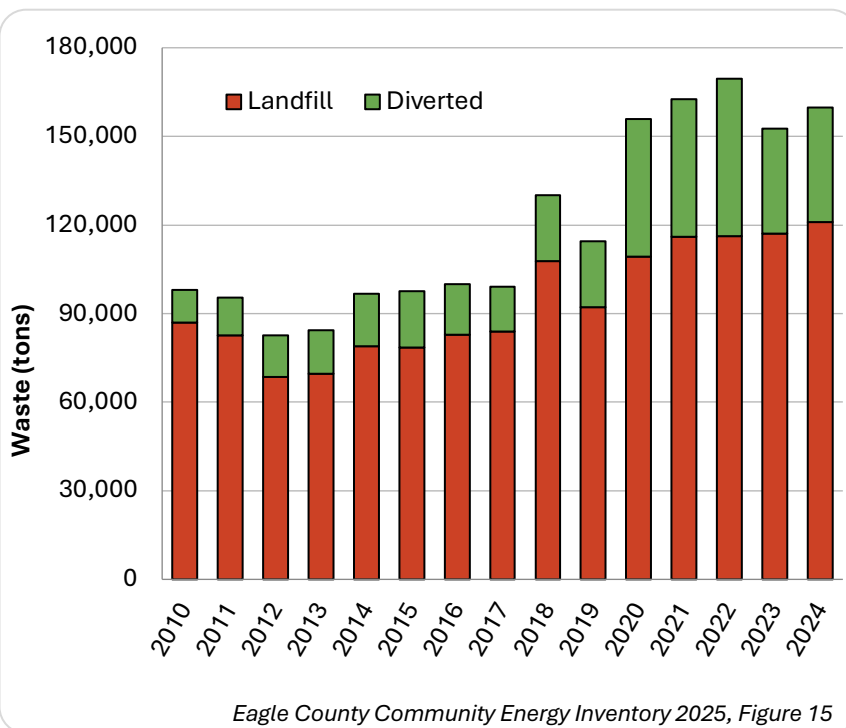
The Eagle County Landfill received 121,000 tons of disposed waste in 2024, resulting in 94,370 tons of CO₂e emissions—a 4% increase from the previous year.

At the same time, diversion—the waste recycled or composted—increased to 24% in 2024, compared to the statewide average of 16%.

Generally, construction waste makes up a larger percentage of both landfill and diverted waste. Converting construction and demolition waste poses an opportunity for emissions reduction.

Methane produced from organic material decomposing in the landfill is the primary source of solid waste emissions. Efforts should continue to focus on reducing organic waste (landscaping and food waste) and increasing the diversion of

recyclables.

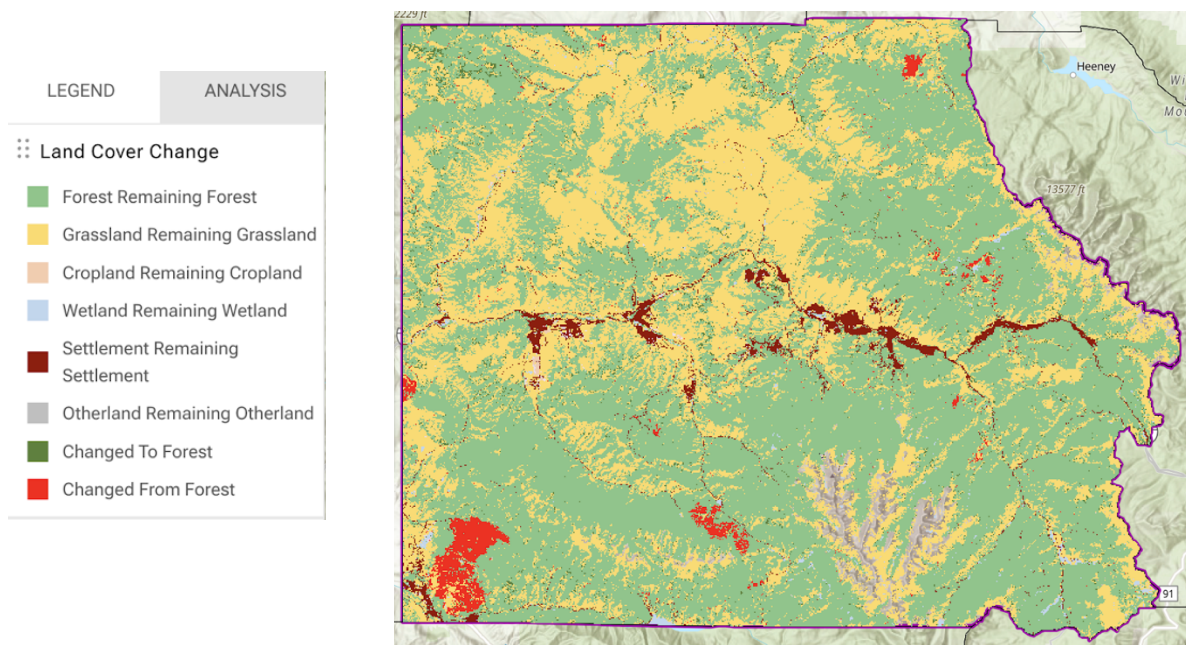


NATURAL CLIMATE SOLUTIONS

This 2024 inventory includes data from an analysis performed by Walking Mountains and the Climate Action Collaborative for Eagle County Communities, which quantifies the estimated carbon emissions and removals from the Agriculture, Forestry and Other Land Use sector (AFOLU).

16. MAP OF EAGLE COUNTY LAND COVER CHANGES. 2019-2021

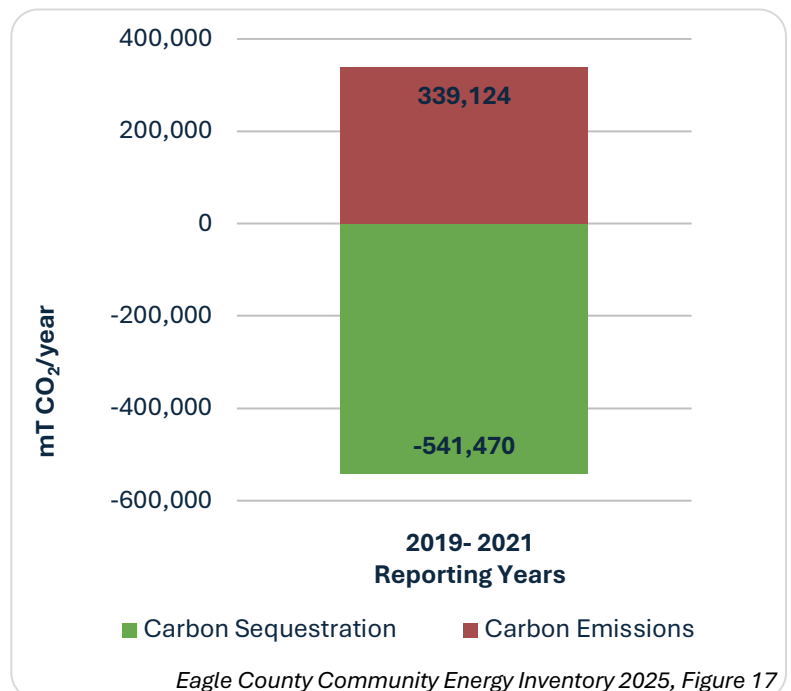
The analysis estimated that during 2019-2021, the sector emitted 339,000 MT CO₂e, primarily from disturbances such as fire, timber harvesting, and development. Concurrently, the AFOLU sector removed an estimated 541,500 MT CO₂e through carbon sequestration. Carbon sequestration occurs when healthy forests and landscapes are preserved for long periods of time and through reforestation of disturbed sites. The results show an estimated net total of 202,000 MT CO₂e removed from the atmosphere through carbon sequestration. Figure 16 below, visualizes the types of land use that occur throughout Eagle County during 2019-2021, the most recent time period available for analysis.



Eagle County Community Energy Inventory 2025, Figure 16

17. EAGLE COUNTY AVERAGE ANNUAL NET EMISSIONS, 2019-2021

This data provides some insight into the impact of the AFOLU sector on total emissions for the County. While this sequestration cannot be used as a credit to offset human-caused emissions, this analysis establishes a baseline condition that must be at least maintained and shows that our natural lands play an important role in emissions management. Strategies to maintain ecosystem health include encouraging regenerative farming practices such as no-till and cover crops, thinning dry brush and timber to reduce wildfire fuels, reusing existing developed land rather than green spaces for new development, and land-use planning for density rather than sprawl.



COMMERCIAL AND RESIDENTIAL ENERGY EFFICIENCY RESOURCES

There are numerous opportunities for rebates and funds from utility providers and organizations in the area. Below are external links to such entities.

[Holy Cross Energy](#)

[Northwest Colorado Council of Governments, Energy Program](#)

[ReEnergize Eagle County](#)

[Walking Mountains](#)

[Community Office For Resource Efficiency](#)

SOURCES AND ACKNOWLEDGEMENTS

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Special thanks to Eagle County Commissioners Jeanne McQueeney, Tom Boyd, and Matt Scherr for their continued leadership in guiding local governments' role in addressing climate change and for commissioning this emissions inventory, which the Climate Action Collaborative will use to measure progress toward its goals.

The following individuals provided data, insight, support, and expertise for this report: John Gitchell and Kate Kirkman, Eagle County; Mike Steiner and Christina Conley, Holy Cross Energy; Mike Beyer, Yampa Valley Electricity Authority; Heather Baldwin, Black Hills Energy; and Melissa Kirr, Walking Mountains.

INVENTORY PROTOCOL

The Eagle County Emissions Inventory quantifies total energy use, costs, and carbon emissions by sector and by fuel and utility source, using 2014 as the baseline year, incorporating an improved transportation metric in 2018, and adding new data in 2024.

The inventory identifies how and where energy is used and emissions are generated. With this information, each energy-using sector can identify opportunities to increase efficiency, reduce emissions, and reduce costs.

This inventory complies with the U.S. Community Protocol for Accounting and Reporting of GHG Emissions (USCP). At least five emission-generating activities must be included for an inventory to be USCP compliant. This inventory surveys five activities: 1) residential energy, 2) commercial energy, 3) vehicles, 4) aviation, and 5) the landfill. Note that the AFOLU data is not included in the primary emissions calculations, but as a supplemental piece of information in the report.

15/15 RULE

According to the Colorado Public Utilities Commission Rules Regulating Gas Utilities [4 CCR 723-4](#), the 15/15 Rule is a privacy standard enacted to ensure customer anonymity when energy data is released to third

parties. The rule requires that aggregated data include a minimum of 15 customers with no one customer's load exceeding 15 percent of the group's energy consumption. If this minimum cannot be met, the data will be removed from the information provided.

In Eagle County, there were a total of 26 customers removed from the Xcel Energy data set. Black Hills Energy (BHE) initially removed 375 commercial accounts from the data set, which included 66 unincorporated commercial customers in addition to the Town of Eagle's 309 commercial and government customers. The willingness of utility companies to share data is paramount in maintaining accurate emissions accounting. Though not as robust as previous data sets from BHE, CLEER was able to incorporate limited data regarding Town of Eagle's commercial buildings into the commercial unincorporated totals for this year's report.

AFOLU

The AFOLU analysis was completed using ICLEI's Land Emissions and Removals Navigator (LEARN) tool and reviewed by Erin Glen and Angela Scafidi from World Resources Institute. Imagery used to generate this data came from the U.S. Geological Survey's National Land Cover Database.

REFERENCES

Figures 1-3

- Holy Cross Energy community report
- Black Hills Energy usage and emissions report for Eagle County
- [Xcel Energy Community Energy report](#)
- Yampa Valley Electric Association community report
- Eagle County Airport fuel usage report
- Colorado Department of Transportation
- [Google Environmental Insights Explorer](#)
- Streetlight Data
- Walking Mountains, 2024 Eagle County Diversion Report
- [Colorado 2021 Greenhouse Gas Inventory Update With Historical Emissions from 2005 to 2021 and Projections to 2050, released September 2021](#)
- [Census.gov: Quick Facts, Eagle County](#)
- [U.S. Energy Information Administration: State Carbon Dioxide Emissions Data](#)
- [EPA: Greenhouse Gas Inventory Data Explorer](#)
- [EPA: Annexes to the Inventory of U.S. GHG Emissions and Sinks](#)
- Core Transit Ridership and Impact Presentation, CAC Transportation Working Group, 2025

Figure 4

- [Holy Cross Energy Power Supply Report](#)
- Holy Cross Emissions factors, 2024, Holy Cross Staff

Figures 5-9

- Holy Cross Energy community report
- Black Hills Energy usage and emissions report for Eagle County

- [Xcel Energy Community Energy report](#)
- Yampa Valley Electric Association community report
- [Eagle County Assessor, West Vail Master Plan](#)
- [Pitkin County 2023 GHG Analysis report](#)
- ["All-Electric New Homes: A Win for the Climate and the Economy,"](#) RMI, October 2020
- [State benchmarking map](#)

Figures 10-14

- [Google Environmental Insights Explorer](#)
- [Colorado Department of Transportation Online Transportation Information System](#)
- [U.S. Environmental Protection Agency: Fast Facts on Transportation Greenhouse Gas Emissions](#)
- [Active Fuels Data Center: Vehicles registered in 2023](#)
- [Eagle County](#)
- [U.S. Environmental Protection Agency: Green Vehicle Guide, Electric Vehicle Myths,](#)
- [U.S. Department of Transportation](#)
- [Atlas Public Policy](#)
- Colorado Department of Transportation (CDOT) [Greenhouse Gas Program](#)
- [Eagle County Electric Vehicle Infrastructure Plan](#), Climate Action Collaborative, 2023

Figure 15

- Walking Mountains, 2024 Eagle County Diversion Report
- [Colorado recycling totals](#)

Figures 16-17

- 2016-2021 analysis of Eagle County AFOLU emissions and reductions analysis provided by Walking Mountains and the Climate Action Collaborative
- [ICLEI Land Emissions And Removals Navigator \(LEARN\) tool: Map of Eagle County](#)

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