



## Memorandum

To: Vail Town Council

From: Environmental Sustainability Department

Date: April 20, 2021

Subject: Resolution No. 19, Series of 2021, a resolution adopting the goals of the Climate Action Plan 2020 Update for the Eagle County Community

### I. Purpose

The purpose of this memorandum and presentation is to present for adoption Resolution No. 19, Series of 2021, supporting the goals of the Climate Action Plan 2020 Update for the Eagle County Community (CAP).

### II. Background

In 2016 over thirty (30) diverse stakeholders from the Eagle County community participated in a nine (9) month-long process to develop the Climate Action Plan the Eagle County Community (CAP) with the intention of meeting the following goals:

1. Set meaningful, achievable greenhouse gas emissions reduction targets for Eagle County.
2. Educate and engage our community about climate change.
3. Build on the knowledge and commitment of fellow community members.
4. Collaborate across towns, agencies, and organizations.
5. Support and reflect state goals and regional efforts.

In January 2017 Vail Town Council approved Resolution No. 2, series of in January 2017 to adopt the goals of the CAP and endeavored to meet the goals of the plan through financial support to the Climate Action Collaborative (CAC), ongoing Town of Vail initiatives, integration with Town of Vail and community plans, and participation in community actions that reduce greenhouse gas (GHG) emissions. The CAP established goals of a 25% reduction in GHG emissions by 2025 over 2014 levels and an 80% reduction by 2050. Town of Vail staff actively participates in the working groups of the Climate Action Collaborative, including the Materials Management, Transportation, Building, Energy Supply, Water, and Local Government groups.

Since implementation, the CAC has worked to implement strategies to achieve GHG emission reduction goals established and is on target to achieve the 2025 goal of 25% GHG emissions reduction. Following an extensive modeling process with Western Colorado University, the CAC updated the CAP in 2020 to include an interim milestone goal of a 50% reduction in GHG emissions by 2030. The CAC also vetted several strategies and actions to implement to achieve these carbon reduction goals.

<sup>1</sup> *Climate Change in Colorado: A Synthesis to Support Water Resources Management and Adaptation. A report for the CWCB. 2014. Jeff Lukas, CU CIRES WWA. <http://cwcb.state.co.us/environment/climate-change>*

## Colorado Climate Trends

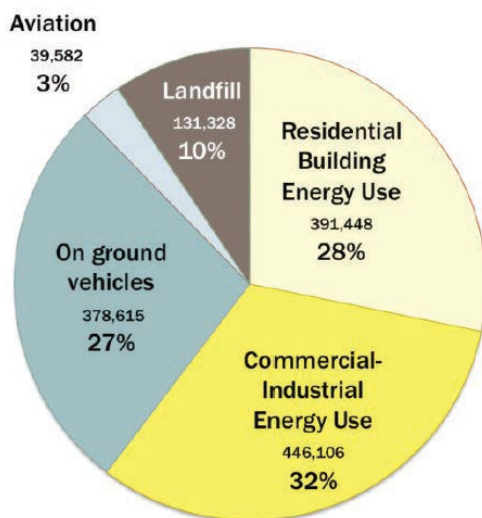
Given the trends in the Colorado climate of an increasing average annual temperature, (up 2.5° F) in the last fifty (50) years, daily minimum temperatures increasing more than daily maximums, timing of peak runoff and snowmelt shifting 1-4 weeks earlier in the season, and about 23 more frost-free days per year<sup>1</sup>, along with an increase in wildfire season by nearly a month (according to District US Forest Service officials), local action and international leadership to slow the impacts of climate change is critical to Vail's sustainability as the premier resort community. The impacts on Colorado flora and fauna are also well documented. For example, marmots now come out of hibernation 38 days earlier than in the 1900s, robins arrive two weeks earlier while some never leave, and larkspur and helianthus bud too early and then freeze, impacting butterflies and other insects.

## Future projections

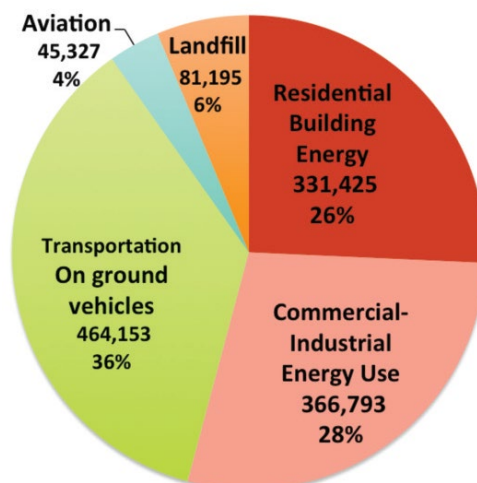
Models indicate earlier spring snowpack decline and continued shift in peak snowmelt, as much as a 6.5° F statewide average temperature increase by 2050, with summer temperatures increasing more than winter and more extreme wildfire, drought, and flood events.

## Eagle County Greenhouse Gas Emissions Inventory

Supported by Eagle County government, Clean Energy Economy for the Region (CLEER), a Garfield County non-profit organization, performed greenhouse gas (GHG) emissions inventories for Eagle County in 2014 and 2017. GHG emissions from energy use in Eagle County in 2017 totaled 1.28 million metric tons of carbon dioxide equivalent (CO<sub>2</sub>e). This is a reduction of 59,900 metric tons compared to 2014 emissions of 1.4 million metric tons of CO<sub>2</sub>e, a 4% reduction. This reduction in emissions comes primarily in the electricity sector, which was reduced by 27%. Eagle County users consumed 2% less electricity, and Holy Cross Energy increased renewables on the grid from 20.3% in 2014 to 39% in 2017.

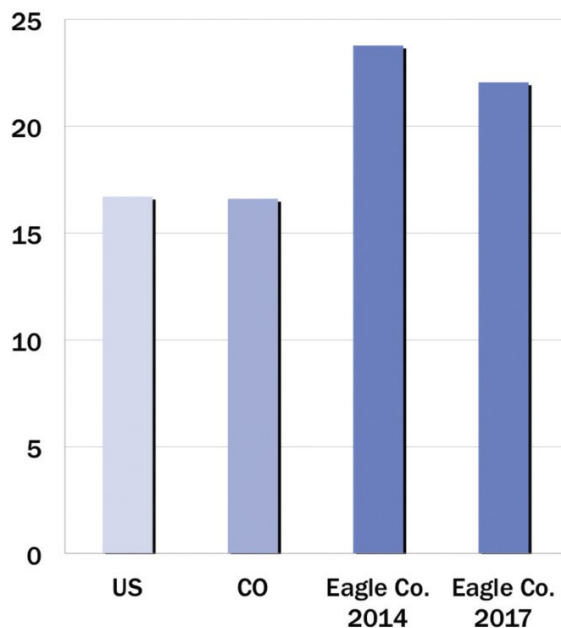


Total emissions in Eagle County by sector – 2014



Total emissions in Eagle County by sector – 2017

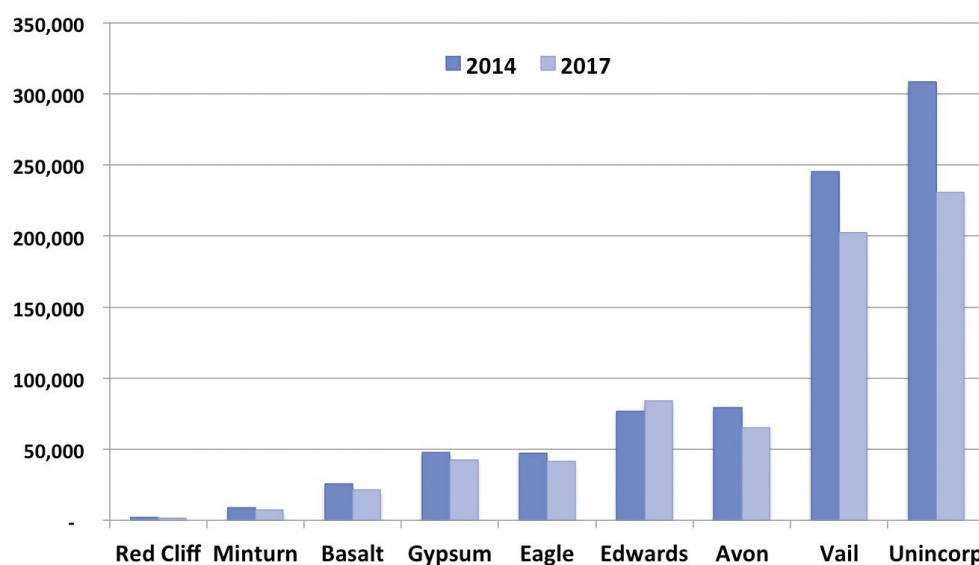
Results indicate that greenhouse gas emissions divided on a per capita basis are higher in Eagle County than the U.S. and Colorado. Contributing factors are transportation, second homes and lodging.



*Emissions per Capita, 2014 & 2017 Metric tons of CO<sub>2</sub>e*

## Vail Greenhouse Gas Emissions Inventory

CLEER further broke down the County inventories by community. Vail's GHG emissions are comparably higher than other communities, due to high impact from ski industry, guests, snowmelt, and transportation. While Vail's emissions remain higher than other communities, Vail achieved a reduction from 2014 to 2017 of about 40,000 metric tons CO<sub>2</sub>e. Much was a result of the increase in renewable energy on the Holy Cross Energy electric grid.



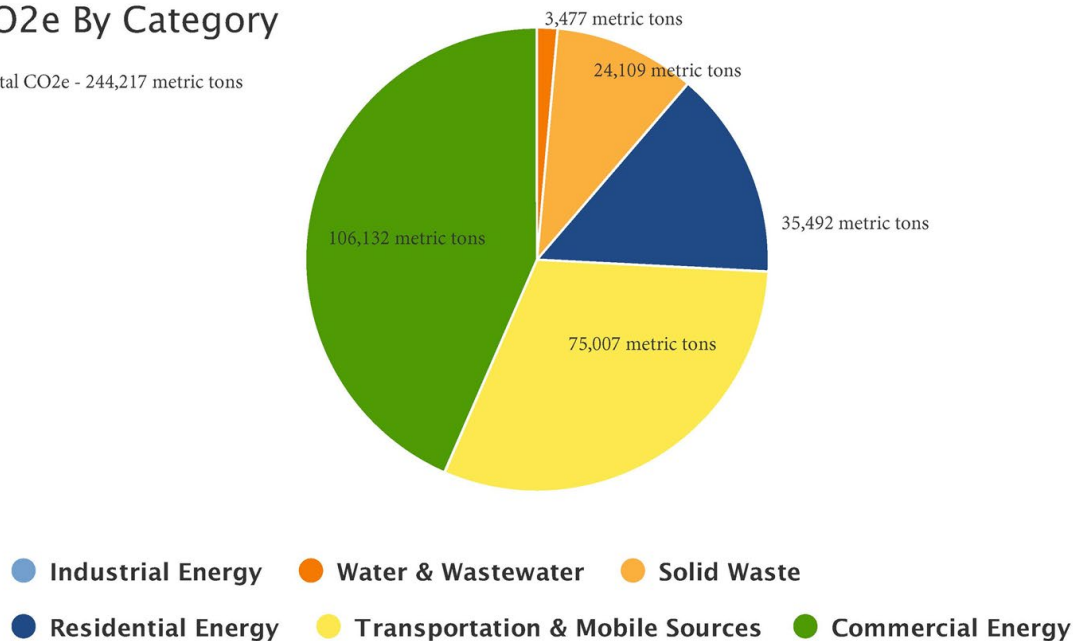
*Change in Emissions by Community, by Residential and Commercial Sectors, 2014 & 2017; Metric tons of CO<sub>2</sub>e*

In 2020 Vail conducted its first community wide greenhouse gas inventory through the ICLEI Mountains Towns 2030 cohort. The inventory was conducted using data from 2018. This inventory will serve as a 2018 baseline for emissions associated with the entire Town of Vail community. 43.4% of GHG emissions are from commercial energy, including the town's snowmelt system; 30.7% of emissions are from transportation and mobile sources, which includes a percentage of Eagle County Airport activity; 14.5% of emissions are from residential energy sources; 10% of emissions are related to solid waste; and 1.4% of emissions are associated with water and wastewater treatment.

## Town of Vail GHG Inventory 2018

### CO<sub>2</sub>e By Category

Total CO<sub>2</sub>e - 244,217 metric tons



Note: GHG Inventory was conducted in 2020 using data from 2018.

Vail Community Wide Greenhouse Gas (GHG) Inventory from 2018 data; metric tons of CO<sub>2</sub>e

### Vail's Current Climate and Waste Diversion Goals

The 2009 Environmental Sustainability Strategic Plan (ESSP) holds the town to a 20% reduction in town-wide greenhouse gas emissions by 2020 (below 2006 levels), a 25% increase in waste diversion by 2019 (below 2009 levels), and a reduction of vehicle miles traveled (VMT) by commuters and guests 20% by 2020 (below 2009 levels). Staff is working to update the Environmental Sustainability Strategic Plan and goals established within.

### III. CLIMATE ACTION PLAN IN PRACTICE

By adopting Resolution No. 19, Series of 2021, the Town of Vail will add to its climate action goals an additional milestone goal of 50% emissions reduction target by 2030 included in the CAP 2020 Update, in addition to the already adopted 25% emissions reduction target by 2025, and 80% by 2050 included in the original 2016 CAP (*note: the CAP uses a baseline year of 2014, making the town's goals slightly more aggressive*). The stakeholder committee put forth

this target based upon the recommendations of the Intergovernmental Panel on Climate Change which states:

*In order to stabilize CO<sub>2</sub> concentrations at about 450 ppm by 2050, global emissions would have to decline by about 60% by 2050. Industrialized countries greenhouse gas emissions would have to decline by about 80% by 2050. [This] will require keeping the total global average warming to no more than 1.1C°/2°F above present levels.<sup>12</sup>*

As the CAP is a collaborative and aspirational plan, the updated specific pathways to reaching 50% emissions reductions by 2030 and 80% by 2050 have been fully vetted through detailed modeling and technical expertise from Western Colorado University. The modeling also provided a comparison of emissions reduction potentials for a series of strategies and action items to achieve the goals. The CAC sector teams, comprised of experts in the community, were consulted on the feasibility of implementing these strategies locally, including identifying gaps and barriers that need to be addressed to move these big strategic moves forward.

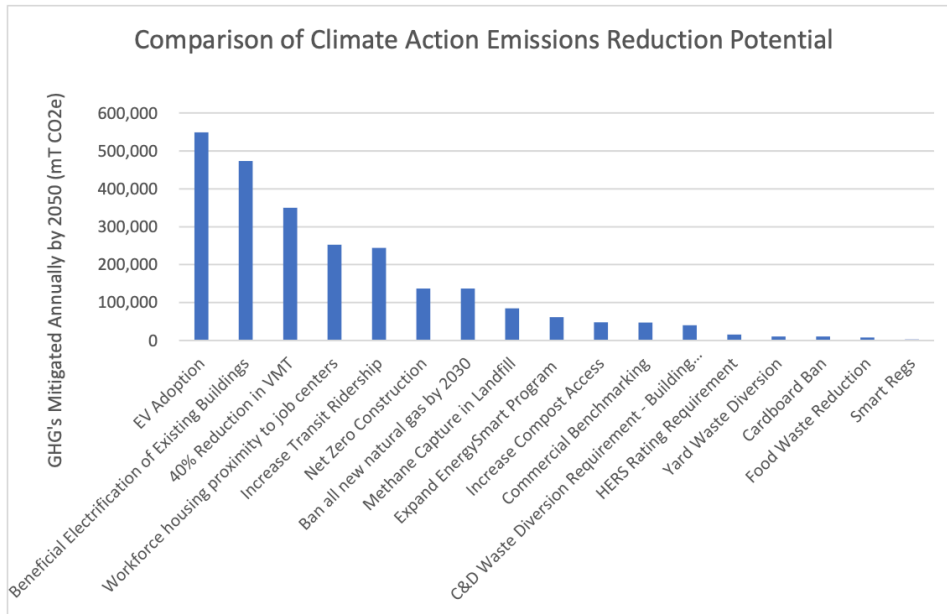
Through these discussions during 2020, the CAC recognized that each of the identified strategies had 2050 as the implementation year. Given 2050 is 30 years out and a lot can change in that time span, the CAC identified a shorter timeline to inspire immediate action. In addition, over the last few years a number of state, federal, and international targets are set for the year 2030. The CAC now aligns with these goals, including those established in the State of Colorado's Greenhouse Gas Pollution Reduction Roadmap, which set a 50% reduction target by 2030.

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<sup>2</sup> Hasol, S. (2007). Presidential Climate Action Report. Emissions reductions needed to stabilize climate. <https://www.climatecommunication.org/wp-content/uploads/2011/08/presidentialaction.pdf>

## Eagle County Modeling Scenarios - Summary

(All units mT CO<sub>2</sub>e unless otherwise noted)



### Overarching Assumptions:

- HCE achieves 70% renewable electricity by 2022
- HCE achieves 100% renewable electricity by 2030
- Xcel Energy achieves 100% renewable electricity by 2050

*Modeling exercise conducted by Western Colorado University with GHG emissions reduction potential per strategy.*

The CAP contains six categories of recommended strategy areas: 1) *Education and Outreach*, 2) *Commercial Buildings*, 3) *Waste and Landfill*, 4) *Residential Buildings*, 5) *Transportation and Mobility*, 6) *Energy Supply*. A series of task meetings with the Climate Action Collaborative (CAC) working groups have identified the top three recommended action items in each strategy area and will continue to work to implement the strategies. The CAP 2020 Update also identified additional strategy areas to implement, which include: *Carbon Sequestration*, *Water Resiliency*, and *Wildfire Resiliency*. The ideas and concepts of the CAP will inform the next phase of the ESSP, which serves as a roadmap for the Town of Vail to achieve the goals with more specific actions.

Each category includes corresponding action items that the County communities may take to achieve their climate goals. Adoption of Resolution No 19. does not obligate the Town of Vail to action, but rather to support the overarching goals of the CAP 2020 Update and utilize the framework in future sustainability planning.

## IV. NEXT STEPS FOR THE CLIMATE ACTION PLAN 2020 UPDATE

To date, the Eagle County Board of County Commissioners, the towns of Avon, Minturn, Eagle, and Basalt, Edwards Metro District, Eagle County School District, Eagle River Water and Sanitation District, Holy Cross Energy, Eagle Valley Land Trust, Mountain Recreation, Colorado Mountain College in Edwards, Upper Eagle River Water Authority, Vail Resorts, Walking

Mountains Science Center, Vail Valley Foundation, Vail Mountain School, R&H Mechanical, and The Wren at Vail have committed to supporting the goals of the CAP.

Eagle County Government and Town of Minturn plan to adopt resolutions to support the CAP 2020 Update in April, and the towns of Avon and Eagle, Edwards Metro District and Eagle River Water and Sanitation District are working towards resolution adoption in the coming months.

**IV. STAFF RECOMMENDATION**

Staff recommends the Vail Town Council adopt Resolution No. 19, Series of 2021 supporting the updated goals and utilizing the recommendations of the CAP 2020 Update where appropriate in developing the next phase of the ESSP.

**IV. ATTACHMENTS**

- A. Resolution No. 19, Series of 2021
- B. Climate Action Plan 2020 Update for the Eagle County Community