



**Town Council
WORK SESSION
Tuesday, June 3, 2025
Public Meeting Room / Eagle Town Hall
200 Broadway Eagle, CO**

*This agenda and the meetings can be viewed at www.Townofeagle.org.
Times listed are approximate and are subject to change.*

TOWN COUNCIL WORK SESSION ACCESS INFORMATION AND PUBLIC PARTICIPATION *This will be an in-person work session. Work sessions of the Town Council are not meetings requiring public comment. The public is allowed to attend, however, public comment will not be scheduled and will only be taken at the discretion of the Mayor. The Council shall take no final or official action, vote, nor make any motions.*

1. **Microsoft Teams** [Need help?](#)

[Join the meeting now](#)

Meeting ID: 292 764 568 170

Passcode: QE7hg7Jw

Dial in by phone

[+1 469-770-0416,869903107#](tel:+14697700416869903107) United States, Kaufman

[Find a local number](#)

Phone conference ID: 869 903 107#

For organizers: [Meeting options](#) | [Reset dial-in PIN](#)

PRESENTATION

1. Regional Net Zero Roadmap (1 hour).
2. Density Cap Discussion with Planning & Zoning Commission (1 hour).

I hereby certify that the above Notice of Meeting was posted by me in the designated location at least 24 hours prior to said meeting.

Camille Deering
Town Clerk

PUBLIC WIFI – Eagle Guest



To: Mayor Turnipseed and Town Council

From: Kira Koppel, Sustainability Specialist & Eddie Wilson, Building Official

Date: June 3rd, 2025

Agenda Item: Regional Net Zero Roadmap

REQUEST: Staff requests that Council evaluate the Regional Net Zero Roadmap and consider it for adoption.

BACKGROUND: Throughout the year of 2024, building and sustainability staff from the Roaring Fork and Eagle River Valleys, as well as local utility company representatives, convened regularly to develop a Net Zero New Construction Roadmap (Roadmap). This collaboration built off the work of the 2022-2023 Eagle County Code Cohort, an effort designed to align building codes across municipalities in the county, to streamline the process for contractors, and to achieve consistency in new building efficiency across the county.

The Roadmap was designed to achieve regional consistency in building codes as well as increased opportunities for greenhouse gas emission reduction from newly constructed buildings. The end goal of the Roadmap is for each involved municipality to adopt and enforce a code standard that achieves new net zero buildings by 2030 in a stepped approach, aligned with each municipality's typical code adoption cycle.

ANALYSIS: Town of Eagle staff were very involved in this process, with participation from our Building Official (Eddie Wilson), Sustainability Specialist (Kira Koppel), and former Building Permit Tech (Jackie VanEyll). Regular feedback from Town staff was incorporated into the final roadmap, as well as plentiful feedback from the workforce, to ensure strategies within the roadmap were realistic to implement.

The group, or cohort, defined a "net zero building" as one with the following attributes:

- Is powered by electricity
- Uses renewable energy from the grid and/or onsite generation
- Has the ability to store energy and/or shift energy use to reduce peak demand on the electric grid;
- Achieves energy performance above base International Energy Conservation Code;
- Is designed to minimize embodied carbon; and
- Is EV-ready.

These attributes align well with what is necessary to achieve our town goal of net zero by 2030. The [Net Zero Action Plan for the Eagle community](#) states 39% of Eagle's total emissions are produced by building energy use. It includes Residential New Construction Electrification Requirement as a strategy, with an associated GHG reduction of 956 metric tons of CO₂e by 2030. Adopting an all-electric new construction code by 2030 is included in the plan as a key performance indicator. This roadmap was designed to help us achieve that goal by our target date. It provides a gradual approach that ensures that the town will not only meet the new state-mandated minimum building & energy code requirements during our next and regular code update, but that we will achieve significant progress toward net zero new construction by our goal date of 2030.

With Holy Cross Energy's participation in roadmap development, we are confident that the local electric grid can accommodate the code adjustments suggested within the roadmap. Additionally, the participation from the workforce instilled confidence that this can be achieved. Local workforce shared their preference that local governments lead on this work; the workforce will build to the code.

Additionally, staff notes that our current code, the 2021 IECC with electric-ready and solar-ready provisions plus amendments, has resulted in all recent multifamily developments choosing an all-electric approach, showing that at least this sector of local development has already taken the jump that will be required for net zero building.

It is important to note that all-electric technologies are developing rapidly, and that some future versions of the International Energy Conservation Code referenced in the roadmap have not yet been released. Because of this uncertainty, the roadmap includes flexibility and opportunities to be updated in alignment with the new technology and the new codes between each suggested step.

Since the Town is currently on the 2021 IECC, adopted in the fall of 2023, our next code adoption is slated for 2027. According to the roadmap, we should plan to adopt the 2027 IECC at that time, including all-electric new construction with exceptions, additional efficiency requirements for very large homes, retain the EEOP, require energy storage where solar is added, and include demand response for water heating. While the roadmap suggests the above as the next step, the Council will have ample opportunity to consider and discuss the next code adoption at length for each specific component. Adopting the roadmap helps us define our overall path to net zero.

If adopted, staff will allocate appropriate time into their 2026 workplans for community outreach on the new codes, in order to improve transparency with our local workforce, residents, and developers, as well as to ensure a smooth transition into the new code.

Lastly, it is worth noting that these collaborative efforts have brought in related grant funding to further the work of the cohort. \$145,000 have been secured from the Colorado Energy Office to support local government staff and workforce trainings, localized cost analyses and case studies, EEOP training and resources, implementation of the roadmap and compliance with state codes. A considerable number of resources have been invested in the roadmap, from its development to future code adoptions.

Adopting the roadmap will result in regional consistency, which benefits the workforce, improved health outcomes for our residents, reduced energy consumption, and significant and necessary progress toward our goal of net zero emissions from the Eagle community by 2030.

COMMUNITY INPUT: The Roadmap was developed via collaboration between the following communities: Town of Avon, Town of Basalt, Town of Eagle, Eagle County, Town of Gypsum, Town of Minturn, Town of Red Cliff, Town of Vail, City of Aspen, Pitkin County, Town of Snowmass Village, City of Glenwood Springs, and the Town of Carbondale staff. Workforce in the building industry working in these towns and cities provided feedback as well.

BUDGET / STAFF IMPACT: Code updates invariably require a considerable amount of staff time. However, the roadmap aligns with the town's next planned code update and won't necessarily add to that burden. Additional support in the form of training and resource development for code adoption and outreach has already been secured via grant funding. Lotus Engineering & Sustainability will facilitate that effort and continue supporting

the region involved in the Net Zero Roadmap. If adopted, Sustainability and Building staff will include provisions in their 2026 work plans for outreach on the new code, new code adoption, and training on new code components.

STRATEGIC PLAN ALIGNMENT/STANDARDS ACHIEVED: The Roadmap supports the town's goal to elevate our relationship with the environment by supporting and demonstrating sustainability (Goal 4-3 of Elevate Eagle Comprehensive Plan) and the town's strategic objective to invest in environmental and energy sustainability. It aligns with and supports continued implementation of Town Council Resolution No. 56, a resolution adopting town-wide sustainability goals.

RECOMMENDED ACTION OR PROPOSED MOTION: Staff recommends Council consider and discuss the Roadmap and Resolution 41, Series 2025, A Resolution of the Town Council of the Town of Eagle, Colorado Adopting the Regional Net Zero Roadmap and Committing to Collaborative Action to Achieve Net Zero by 2030 and provide any relevant feedback.

ATTACHMENTS:

- Regional Net Zero Roadmap Executive Summary
- Regional Net Zero Roadmap Full Report
- Regional Net Zero Roadmap Presentation Slides
- Resolution 41-2025 Adopting the Regional Net Zero Roadmap



A Regional Roadmap for a New Net Zero

**Redefining Net Zero and Aligning New Construction
Codes**

NOVEMBER 2024

Table of Contents

Glossary	ii
Abbreviations	iv
Why We Need a Net Zero New Construction Roadmap	1
Introduction	2
Background	2
Roadmap Goals	3
Cohort Members	4
A New “Net Zero”	6
Regional Roadmap to Achieve the New Net Zero	8
How to Read the Roadmaps	8
Residential Roadmap	10
Commercial Roadmap	12
*2027 & 2030 Re-Evaluation	14
Renewable Energy	14
Energy Storage	15
Demand Response	15
Equity and Affordability in Roadmap Implementation	15
Local Building Equity	16
Affordability and Financial Barriers	17
Indoor Air Quality and Health Benefits	19
Education and Outreach	20
Gaps and Future Work	21
Green Workforce Development	21
Listen and Learn Key Takeaways	23
Next Steps and Future Work	27
Conclusion	28
Acknowledgements	29

Glossary

All-Electric Building: A building that contains no combustion equipment or plumbing for combustion equipment within the building or building site.

Building Types:

Commercial: For building code purposes, all buildings that are not included in the definition of “Residential” below.

Multifamily: A property that includes multiple separate housing units within one building or set of buildings. Multifamily buildings with more than three stories must comply with the commercial chapter of the energy code, and multifamily buildings with three stories or less must comply with the residential chapter of the energy code.

Residential: Includes detached one- and two-family dwellings, multiple single-family dwellings (townhouses) and residential multi-family buildings three stories or less in height above grade plane.

Clean energy: Energy that creates no greenhouse gas emissions when produced. Common forms include solar, wind, water, geothermal, bioenergy, and nuclear.

Demand Response: Any modulation in customer electric usage at targeted times, including reduction of usage or shifting of usage from one time to another, or interruption or curtailment of electric usage, either with load control equipment or in response to incentives, a signal, or changes in the price of electricity designed to induce changes in electricity use at specific times.

Electrification: The process of replacing equipment that is powered with fossil fuels to that which is powered by electricity.

Beneficial Electrification: Per CRS 40-1-102, converting the energy source of a customer’s end use from a non-electric fuel source to a high-efficiency electric source, or avoiding the use of non-electric fuel sources in new construction or industrial applications, if the result of the conversion or avoidance is to:

- Reduce new greenhouse gas emissions over the lifetime of the conversion or avoidance.
- Reduce societal costs or provide for more efficient utilization of grid resources.

Electric-Ready: A residential home or commercial building that uses fossil fuels for space heating, water heating, cooking, clothes drying, and/or vehicles and that has pre-wiring, a dedicated circuit, and sufficient physical space for future all-electric equipment.

Electric-Preferred: New construction of a residential or commercial building that requires extra efficiency or renewable energy if the building systems use natural gas.

Electric Vehicle (EV)-Ready: Preparing parking spaces for the future installation of EV chargers. There are three stages of EV-ready:

Electric Vehicle Capable: A designated parking space that includes electric panel capacity, a dedicated branch circuit, and raceway for eventual installation of an EV charger.

Electric Vehicle Ready: A designated parking space that is EV-capable and has a 240-volt outlet installed for an EV charger.

Electric Vehicle Supply Equipment (EVSE): The electrical conductors and associated equipment external to the electric vehicle that provide a connection between the premise's wiring and the electric vehicle to provide electric vehicle charging.

An EVSE-Installed parking space has a minimum Level 2 charging station installed.

Embodied Carbon: Embodied carbon encompasses all anthropogenic greenhouse gas emissions from building material extraction through the end of that material's useful life. These emissions may come from sourcing raw materials, manufacturing, transporting materials, construction and/or installation of that material, ongoing use, maintenance and repairs, and disposal.

Energy Burden: The amount of household income spent on energy costs. According to DOE's Low-Income Energy Affordability Data, the national average energy burden for low-income housings is 8.6%, nearly three times higher than that for non-low-income households (estimated at 3%).¹

¹ <https://www.energy.gov/scep/low-income-energy-affordability-data-lead-tool>

Energy Storage System: Any commercially available, customer-sited system, including batteries and the batteries paired with on-site generation, that is capable of retaining, storing, and delivering energy by chemical, thermal, mechanical, or other means.

Exterior Energy Use: Energy consumed by equipment for outdoor amenities, including but not limited to snowmelt systems, spas, pools, and outdoor fireplaces.

International Energy Conservation Code (IECC): Part of a suite of building codes published by the International Code Council, updated in an extensive process every three years, and adopted at the state or local level. The energy code has a chapter focused on commercial buildings and a chapter on residential buildings, each offering several flexible methodologies for builders to reach specific energy targets.

Solar-Ready: Designating and reserving roof space, installing conduit, pre-wiring, and panel capacity in preparation for a future installation of a solar photovoltaic (PV) or solar thermal system.

Abbreviations

AHJ – Authority Having Jurisdiction

CAC – Climate Action Collaborative

CORE – Community Office of Resource Efficiency

CLEER – Clean Energy Economy for the Region

EEOP – Exterior Energy Offset Program

EV – Electric Vehicle

HVAC – Heating, Ventilation, and Air Conditioning

REMP – Renewable Energy Offset Program

PV – Photovoltaic

Why We Need a Net Zero New Construction Roadmap

Our mountain region is facing increasing climate threats as statewide climactic changes drive local warming. The local governments in the Eagle River and Roaring Fork Valleys recognize this threat and have established strong goals to ensure we reduce our local carbon emissions to secure a vibrant and resilient future for our communities.

The Net Zero New Construction Roadmap (Roadmap) is a local government and utility staff-led effort to identify how we can achieve zero carbon emissions for all new buildings, in line with our climate action goals, by 2030, while maintaining housing affordability, and bolstering our local workforce to deliver on these objectives.

Through this collaborative effort, we defined what "net zero" truly means for our mountain region, providing a clear path for local governments to adopt energy codes that will achieve net zero newly constructed buildings by 2030. This unified approach ensures that our region will effectively tackle climate challenges while fostering economic growth and sustainability.



Introduction

In 2024, a Cohort of building department and sustainability staff, sustainability and building code experts, and local utility company representatives from communities within the Roaring Fork and Eagle River Valleys convened at a series of collaborative meetings to develop a Net Zero New Construction Roadmap (Roadmap) for residential and commercial buildings. The driving force for this work is to support the mountain regions in reducing and eliminating carbon emissions from new buildings to achieve climate goals, as well as strive towards a regionally-consistent building code that supports the local green building workforce as well as overall housing affordability and resiliency.

Developing a “net zero” roadmap required the group to start with the question “What does net zero mean in our local context?” Along with this important discussion, the Cohort additionally discussed how the very different code approaches currently in place across the region could come together in an aligned code that the local workforce could follow. Throughout the Roadmap development process, the Cohort provided their perspectives on the opportunities, challenges, and regional feasibility of achieving net zero buildings. It was noted that local governments in the region have tested different approaches to net zero, making this Cohort an ideal case study to share lessons learned from each individual community’s code approach, and work toward a regionally-aligned code.

BACKGROUND

In 2023 a project was undertaken to align the Eagle County communities under the same energy code with the same supporting amendments. After feedback from participating local governments and the local workforce that this effort was successful and useful, the Cohort was inspired to continue the collaboration to build a Roadmap to achieve net zero new construction by 2030 – a shared Climate Action Plan goal of most of the Eagle County communities. Recognizing that Eagle County and neighboring communities like those in the Roaring Fork valley share a workforce, the scope of the Cohort collaboration was expanded from Eagle County to include communities in the Roaring Fork Valley that were interested in aligning regionally on future energy code updates and a regional definition for net zero.

ROADMAP GOALS

The primary goals of the Roadmap are to:

1. Re-define what “net zero” energy use for newly constructed buildings means in our local context.
2. Eliminate operational GHG emissions that are generated by newly constructed homes and commercial buildings’ energy use in the region (except for special circumstances).
3. Provide local government staff and elected leaders with a clear pathway to follow for new construction energy code updates to enforce net zero building requirements, as defined in this Roadmap, by 2030.
4. Support ongoing collaboration amongst local government staff and elected leaders to adopt the same building energy codes that result in net zero buildings by 2030, so the rules and standards across the region are consistent.

These goals encourage working together in areas like adoption and enforcement of building energy codes, sharing resources on costs and impacts of code options, and identifying opportunities to support the local workforce in adhering to these codes and standards, so that new buildings positively impact all community members. The Roadmap presented in this report gives flexible guidelines to help move toward net zero new construction, as defined by this Roadmap, across the region and achieve consistency between valleys, while still letting each community adjust the plan to fit their own progress.

COHORT MEMBERS

The following local governments, utilities, community non-profits, and technical experts worked together in the Cohort to develop this Roadmap. Representatives from the local governments present included Chief Building Officials, building department staff, and sustainability department staff.

LOCAL GOVERNMENTS

Town of Avon
Town of Basalt
Town of Eagle
Eagle County
Town of Minturn
Town of Red Cliff
Town of Vail
City of Aspen
Pitkin County
Town of Snowmass Village
City of Glenwood Springs
Town of Carbondale

UTILITIES

Xcel Energy
Holy Cross Energy
Aspen Utilities

Glenwood Springs Electric & Public Works
Black Hills Energy

TECHNICAL EXPERTS ADVISING ON THE PROJECT

Shums Coda Associates
Biospaces Energy Consulting
Southwest Energy Efficiency Project

COMMUNITY NONPROFITS

Community Office of Resource Efficiency (CORE)
Climate Action Collaborative at Walking Mountains (CAC)
Clean Energy Economy for the Region (CLEER)

Foundational to the success of this effort was the collaborative support and engagement from the three community non-profits working with the region's local governments to achieve ambitious climate action goals. The effort to fund the project and to secure engagement from local government staff, local utilities, and technical experts was guided by the Climate Action Collaborative (CAC) at Walking Mountains, the Community Office for Resource Efficiency (CORE), and Clean Energy Economy for the Region (CLEER).

CORE has been a regional leader in promoting energy efficiency and reducing emissions in the Roaring Fork Valley, while the CAC has gathered local stakeholders around ambitious climate goals in the Eagle River Valley. CLEER, a local organization representing Garfield Clean Energy in Garfield County, has made progress in adding renewable energy and energy efficiency to the region's infrastructure. Together, the work of these three organizations has laid a strong foundation for regionally aligning on the common goal of achieving net zero new construction by 2030.



A NEW “NET ZERO”

Aspen Electric and Glenwood Springs Electric provide 100% carbon-free, renewable energy to their customers and have done so since 2015 and 2019 respectively. Holy Cross Energy has a goal to achieve 100% renewable energy on the local electric grid by 2030 and is well on its way to achieving that goal, with 50% of the electricity provided to customers in 2023 coming from renewable energy. Xcel Energy is required by Colorado law to provide at least 80% of its grid-supplied electricity from renewable energy by 2030 and achieved 44.2% system-wide renewable energy in Colorado in 2023. This means that in a few short years, the electricity grid will be supplying this entire region with nearly 100% renewable, carbon-free electricity.

Attaining regional consistency in energy codes to achieve “net zero” requires agreement on what “net zero” means. The typical definition for “net zero” is to produce energy onsite (typically via onsite solar) to cover what the building consumes in energy, over a one year time period.² However, the rapidly changing landscape of electricity supply in our region forced the Cohort to ask and answer the question – is this classic approach for net zero the right way to pursue it in our region? After facilitated discussion the Cohort agreed that a new approach to net zero was needed.

Specifically, the region represented in this Roadmap is served by electric utilities rapidly on their way to supplying 100% renewable, carbon-free electricity.³

This fundamental shift in our regional energy supply, led by our progressive electric utilities, allowed the Cohort to

² <https://www.energy.gov/eere/buildings/articles/common-definition-zero-energy-buildings>

³ <https://www.aspen.gov/DocumentCenter/View/5873/100-Percent-Renewable>
<https://www.cogs.us/529/Sustainability>
<https://www.holycross.com/about-us/library/annual-report>
[https://my.xcelenergy.com/s/energy-portfolio/power-generation/certified-renewable-percentage#:~:text=The%20third%2Dparty%20verified%20Colorado%20Certified%20Renewable%20Percentage,used%20by%20customers%20from%20all%20sources%20\(MWh\).](https://my.xcelenergy.com/s/energy-portfolio/power-generation/certified-renewable-percentage#:~:text=The%20third%2Dparty%20verified%20Colorado%20Certified%20Renewable%20Percentage,used%20by%20customers%20from%20all%20sources%20(MWh).)

envision what “net zero” means if the electric grid is supplying the clean energy a building needs, rather than each individual building producing it itself.

In addition, the Cohort deliberated how the definition of net zero should incorporate newer technologies like heat pumps, energy storage, demand response, and electric vehicles that reduce overall greenhouse gas emissions.

The Roadmap was informed and driven by discussions with the local utilities that deliver electricity to the region and was developed to be in concert with the utilities infrastructure and the future needs and projections in integrating the new technologies discussed by the cohort like energy storage and demand response.

The following description outlines the key attributes of a net zero building the Cohort agreed to strive for across the three-county region:

A “net zero” building is one that:

- **Is powered by electricity.**

This means the building uses only electricity for all its power needs, like heating, cooling, and appliances. It does not rely on gas or other fossil fuels.

- **Uses renewable energy from the grid and/or onsite generation.**

The building gets its electricity from clean electricity sources like solar or wind power. This energy can come from the local power grid, or the energy can be generated on-site, such as through rooftop photovoltaic panels.

- **Has the ability to store energy and/or shift energy use to reduce peak demand on the electric grid.**

The building can store extra energy generated from renewable sources in batteries or adjust its energy use throughout the day to avoid using too much electricity when the grid is under heavy demand, helping to prevent blackouts and high energy costs.

- **Achieves energy performance above base International Energy Conservation Code.**

The building is designed to be more energy-efficient than the standard model building energy codes require. This means it uses less energy to operate, reducing operational greenhouse gas (GHG) emissions, energy costs, and demand on the utility grid.

- **Is designed to minimize embodied carbon.**

Construction materials have a lesser environmental impact, meaning less carbon pollution is created through the product's life cycle (making or extracting the products, using them, transporting them, and disposing them).

- **Is EV-ready.**

The building is set up to support future electric vehicle (EV) charging, so people can easily charge their electric cars onsite. This supports EV adoption throughout the region, helping to lower GHG emissions and air pollution from cars, trucks, and other personal and fleet vehicles.

Regional Roadmap to Achieve the New Net Zero

HOW TO READ THE ROADMAPS

There are two roadmaps outlined in this report, one for commercial new construction and one for residential new construction. Each roadmap is focused on elements that are related specifically to the energy code and is divided by key net zero elements: energy efficiency, electrification, energy storage, demand response, and renewable energy. Within each element there are three major steps that move toward the final goal of achieving net zero buildings, as defined by this Roadmap for new construction through 2030: Step A, Step B, and Step C. Each step is associated with a timeframe that is aligned with the release of the newest editions of the model building codes published by the International Code Council, which occurs every three years. In addition, the steps were meant to align with the cadence for which local governments in the region adopt new codes, which is typically on a three- or six-year cycle.

This roadmap is meant to meet each community where they are. The steps represent a suggested progression to achieve the 2030 goal, but a community could also advance through the suggested steps at its own pace, based on current code status, adoption cycles, leadership direction, community preferences, etc. If successful, ongoing collaboration on future code adoption cycles will yield increasingly aligned codes in the next several years, resulting in full regional alignment by 2030 on a new construction standard resulting in net zero buildings.



Residential New Construction Roadmap

	Step A Suggested time frame: 2024–2026	Step B* Suggested time frame: 2026–2029	Step C* Suggested time frame: 2030 and beyond
Energy Efficiency	Adopt the 2021 or 2024 IECC base code and the required state Electric and Solar Ready Code, at a minimum.	Adopt the State Minimum Code (HB22-1362): State Low Carbon and Energy Code based on the 2024 IECC or the 2027 IECC. <i>Note: The new state minimum is required for jurisdictions updating building codes starting July 1, 2026.</i>	Adopt the most recent IECC. Identify above code options to drive additional residential energy efficiency as necessary. <i>It will remain unclear what those additional energy efficiency options may be until the 2027/2030 IECC requirements are known.</i>
Home Size Threshold	Higher energy efficiency must be demonstrated in homes over a certain size.	Higher energy efficiency must be demonstrated in homes over a certain size.	Higher energy efficiency must be demonstrated in homes over a certain size.
Electrification	Electric-preferred code to encourage electrification of new buildings, along with. electric-readiness for all energy end uses in a building.	All-electric with exceptions for gas supplemental heat, emergency generators, and other items as decided by AHJs or building officials.	All-electric with no OR rare exceptions as decided by AHJs or building officials.
Energy Storage	Utilize the REMP or EEOP Programs to incentivize battery storage. For AHJs requiring PV for new	Utilize the REMP or EEOP to incentivize battery storage. Energy storage is required if a new PV	Utilize the REMP or EEOP to incentivize battery storage. Energy storage is required if a new PV

	buildings, energy storage is strongly encouraged or incentivized to be installed with the PV system.	system is installed.	system is installed.
Renewable Energy Pathway 1: For jurisdictions with existing <u>Solar</u> Requirements	Solar is required. If solar is installed, energy storage is required to be installed with the PV system.	Solar is required to offset remaining "non-renewable" energy being consumed from the electric grid. If solar is installed, energy storage is required to be installed with the PV system.	Solar-readiness is required. Solar installation is optional, as long as utilities have accomplished 100% renewably powered grid. If solar is installed, energy storage is required to be installed with the PV system.
Renewable Energy Pathway 2: For jurisdictions with existing <u>Solar-Ready</u> Requirements	Solar-readiness is required.	Solar-readiness is required. If solar is installed, energy storage is required to be installed with the PV system.	Solar-readiness is required. Solar installation is optional, as long as utilities have accomplished 100% renewably powered grid. If solar is installed, energy storage is required to be installed with the PV system.
Demand Response	None.	Demand response controls for electric water heaters are required (per state law CRS 6-7.5-101-110, effective Jan 1, 2026)	Demand response controls for electric water heaters and for thermostats are required.

*See 2027 & 2030 Re-evaluation

Commercial New Construction Roadmap

	Step A Suggested time frame: 2024–2026	Step B* Suggested time frame: 2026–2029	Step C* Suggested time frame: 2030 and beyond
Energy Efficiency	Adopt the 2021 or 2024 IECC base code and the required state Electric and Solar Ready Code, at a minimum.	Adopt the State Minimum Code (HB22-1362): Low Carbon and Energy Code based on the 2024 IECC or the 2027 IECC. <i>Note: The new state minimum is required for jurisdictions updating building codes starting July 1, 2026.</i>	Adopt the most recent IECC. Identify above code options to drive additional commercial energy efficiency. <i>It will remain unclear what those additional energy efficiency options may be until the 2027/2030 IECC requirements are known.</i>
Electrification	Electric-preferred code to encourage electrification of new buildings, along with. electric-readiness for all energy end uses in a building.	All-electric with some exceptions as decided by AHJs or building officials <u>OR</u> Adopt a stronger electric-preferred standard with increased efficiency requirements.	All-electric with rare exceptions as decided by AHJs or building officials. Evaluate all rare exceptions prior to adoption to ensure they are relevant, based on how electrification technology has evolved (e.g. labs, hospitals, critical infrastructure / facilities, WWTPs, commercial kitchens).
Energy Storage	Utilize the REMP or EEOP to incentivize battery storage. For AHJs requiring PV for new buildings, energy storage is	Utilize the REMP or EEOP to incentivize battery storage. Energy storage is required if a new PV system is installed.	Utilize the REMP or EEOP to incentivize battery storage. Energy storage is required if a new PV system is installed.

	required to be installed with the PV system.		
Renewable Energy Pathway 1: For jurisdictions with existing <u>Solar Requirements</u>	Solar is required on commercial buildings over 5,000 sq ft. If solar is installed, energy storage is required to be installed with the PV system.	Solar is required to offset remaining "non-renewable" energy being consumed from the electric grid for commercial buildings over 5,000 sq ft. If solar is installed, energy storage is required to be installed with the PV system.	Solar-readiness is required. Solar installation is optional, as long as utilities have accomplished 100% renewably powered grid. If solar is installed, energy storage is required to be installed with the PV system.
Renewable Energy Pathway 2: For jurisdictions with existing <u>Solar-Ready Requirements</u>	Solar-readiness is required.	Solar-readiness is required. If solar is installed, energy storage is required to be installed with the PV system.	Solar-readiness is required. Solar installation is optional, as long as utilities have accomplished 100% renewably powered grid. If solar is installed, energy storage is required to be installed with the PV system.
Demand Response	None.	Demand response controls for some electric water heaters are required (per state law CRS 6-7.5-101-110, effective Jan 1, 2026 for small commercial applications 40-120 gallons).	Demand response controls for all electric water heaters and for thermostats are required.

*See 2027 & 2030 Re-evaluation

***2027 & 2030 Re-Evaluation**

Throughout Cohort discussions there was recognition that the steps outlined in this Roadmap were created with the best knowledge we have today of net zero approaches, costs, state policies, new technologies, and utility support. In conversations with the utility representatives, community partners, and technical experts, it was clear that these elements may change between now and the end of the decade. Policy, technology, or utility programming and incentives could influence how each component is incorporated into the building code as 2030 approaches. At the time of writing, communities are also concerned about legal challenges to electrification efforts due to federal preemption rules through the Energy Policy and Conservation Act. Jurisdictions are encouraged to monitor this rule and its evolution. Overall, ongoing collaboration and re-evaluation of the Roadmap elements in future code adoption cycles will be key to achieving the overall goal this Roadmap sets out.

Communities and utility representatives are encouraged to reconvene with the support of technical experts and workforce representatives to revisit the renewable energy, energy storage, and demand response elements of this roadmap prior to the development of new energy codes for 2027 and 2030. Communities should work together as a region in advance of each code adoption cycle to review new data and state policies, re-evaluate cost and equity impacts, and realign on a regionally consistent code standard for the region to adopt in alignment with this Roadmap.

RENEWABLE ENERGY

As utilities incorporate more utility-scale renewable sources like solar and wind into their energy supply, the role of onsite solar may shift from providing greenhouse gas emission reductions to providing resiliency support. Additionally, there might be changes in the rules for net metering or in state and federal financial help. Net metering is a system where people with solar panels can send extra electricity back to the power company and get credits to lower their bills. If these rules or financial incentives change, it could make it less compelling for community members to install solar panels.

ENERGY STORAGE

Energy storage is a quickly advancing part of the energy landscape, so it is important to continue checking on how it is developing over time. Utility programs may shift to offer more or less incentives for pairing energy storage with solar installations, or they might prioritize stand-alone storage systems. As grid management evolves, the need for energy storage in 2030 could look quite different from 2024, or even 2027. Utilities may also announce plans to build large-scale storage facilities, which would affect the need and demand for residential and small commercial storage systems.

DEMAND RESPONSE

As the electricity grid increasingly incorporates renewable sources, and demand grows with new all-electric buildings and higher adoption of electric vehicles, effective demand response becomes crucial for balancing the energy needs of our buildings and the energy supplied by renewable resources to keep energy affordable, reliable, and clean. Both the residential and commercial sectors will benefit from aligning demand response strategies with the evolving grid conditions and utility programming in this space.

Equity and Affordability in Roadmap Implementation

The Colorado Energy Office (CEO) outlines how to bring equity into making buildings more environmentally friendly at the state level in its published equity definition and guiding principles.⁴ Buildings play a large role in either promoting fairness or making inequality worse within our communities. Poorly built or inefficient homes often put a heavier burden on low-income families, leading to higher energy bills, worse indoor air quality, and more health problems.⁵ As the electric grid becomes cleaner and

⁴ <https://drive.google.com/file/d/1ERVb6ZOqnN-ktj0au3yBF4lfY1YHa3IK/view>

⁵ <https://rmi.org/why-efficiency-matters-unlocking-benefits-beyond-climate-for-all/>

building technologies improve, we have an opportunity to lower energy costs, improve health, and make sure no community members are stuck with outdated, polluting systems as we build new homes and buildings.

The overarching equity vision from the CEO calls for increasing access to clean energy and clean transportation for all Coloradans, focusing on communities that have been underserved and/or are most affected by climate change and pollution. The equity guidance from the CEO can be used by local governments in the region when implementing building codes to prevent unintended consequences of new code updates on disproportionately impacted communities. New building codes can be a tool to fix inequalities by reducing reliance on fossil fuels, improving energy efficiency in buildings, and connecting buildings to a cleaner, more affordable electric grid.

LOCAL BUILDING EQUITY

These broader issues of building inequity are seen at the local level in the Roaring Fork Valley and the Eagle River Valley. The Eagle County Climate Equity Plan highlights how local Latino/a/x and low-income residents often struggle with higher energy burdens and limited access to energy efficiency programs. The equity plan engaged with community members through a survey, which revealed that 72% of Spanish-speaking survey takers and 32% of English-speaking survey takers use money meant for important needs, like food and medicine, to pay their energy bills instead. Additionally, renters, who often live in less energy efficient properties, face additional barriers like landlords being unwilling to make energy-saving upgrades.⁶ Cohort discussions for this Roadmap revealed similar stories in the Roaring Fork Valley.

Broadly, during this process, Cohort members were asked to take a survey in which they identified key equity concerns and barriers to net zero new construction, as well as potential solutions to these concerns. The survey inspired a dedicated discussion about equity. The survey responses and meeting conversations indicated the cohort

⁶ [CAC Climate Equity Plan](#)

is very aware of the fairness issues related to reducing emissions from buildings. This feedback, summarized below, shows the details of making sure everyone gets fair results, while also recognizing bigger issues like social, economic, and health problems.

AFFORDABILITY AND FINANCIAL BARRIERS

A consistent theme throughout the survey responses and the equity discussion was a desire to minimize upfront costs of new construction, which could support more accessible and affordable housing for community members in the valleys. Through case studies from new buildings across the three-county region and in other Colorado Mountain communities, it's been shown that all-electric, high efficiency new buildings are feasible without a higher price tag if the design and intent to build net zero is a goal from the start.⁷

More important to the equity discussion for underrepresented communities is the new construction decisions that impact the occupants of that home or building for years to come. Selecting inefficient or polluting energy systems for a home or building could increase health risks, increase energy costs, and burden future building owners or users with the poor choices made by others related to the construction of the building they call home. This issue is particularly important in the multifamily context where many of the local community live. While rebate programs exist from local governments, CBOs, and the utilities, these programs are often less accessible to local residents, particularly underrepresented communities as noted above, and require upfront investments in the energy saving projects. This emphasizes the importance of building strategically from the start, to ensure high performing, high efficiency, healthy and safe homes are available for all residents.

⁷ [Cost-Effectiveness of the 2021 IECC for Residential Buildings in Colorado – 2015 IECC Baseline](#)
[Breckenridge shows how affordable and sustainable housing can be all-electric too – Southwest Energy Efficiency Project](#)
[Energy savings make Rifle housing project doubly affordable](#)
[Eagle County Energy Code Modeling Report](#)

The challenge remains that if electrification is not done right, electrified systems could lead to higher electricity costs, creating more of a cost burden than providing relief. Therefore, group members talked about the need for a balanced approach, making sure that any electrification code is developed with strong energy efficiency requirements to reduce electricity needed to power a home thereby lowering energy bills for the building occupants. One cohort participant remarked “as all-electric is enforced, [we] need to ensure *efficient* all-electric is enforced. Inefficient electrification can drive up costs.” Comments from the Cohort underscore the urgency of ensuring that equity-priority renters, who often experience the highest energy burdens, can benefit from the new approach to a net zero new construction code. The Roadmap addresses this through regular updates to the base International Energy Conservation Codes to ensure energy efficiency is being maximized and setting buildings up for smart electrification.

“Rental housing and multifamily units may be places where folks have the least income – we need to make these as efficient as possible to reduce energy bills.”

– Listen and Learn Participant

PROPOSED SOLUTIONS

Note, many of the solutions discussed by the Cohort reflect opportunities to bring our existing building stock up to net zero standards, in addition achieving net zero new construction. The recommendations below capture solutions for both new and existing buildings.

Green financing options: Several recommendations were made for expanding financial incentives that support affordable housing developers in building to net zero standards. To advance net zero even further for existing buildings, incentives could include the middle-ground income bracket, where folks often make too much money to qualify for certain income-based rebates, yet still cannot afford the initial costs for energy efficiency or electrification.

Incentivizing through the permitting process: Use the permit approval process to incentivize developers to include energy efficiency and electrification via reduced permitting fees or density bonuses, particularly for new affordable housing projects.

Targeted financial support for renters: Cohort members discussed ensuring tenants in rental properties benefit from sustainable housing without facing higher rent prices. This may require direct, targeted outreach or incentives to landlords to ensure the cost of energy efficiency upgrades for existing buildings to achieve net zero are not passed on to tenants.

Local government infrastructure assistance: Local governments may need to step in to help utilities fund grid upgrades, community solar and storage solutions, and EV infrastructure to avoid those costs being passed to developers or to occupants. Funding could be sourced from state and federal grant opportunities or baked into budgets early in community development planning phases.

INDOOR AIR QUALITY AND HEALTH BENEFITS

Indoor air quality emerged as an equity issue across group discussions, with a particular focus on how electrification can improve the health outcomes of equity priority community members. The cohort noted that many low-income households are currently in older, poorly ventilated buildings that use gas-powered heating and cooking systems. This combination of factors can lead to poor indoor air quality.

Survey takers emphasized health benefits of electrification, identifying electrification as the top attribute to prioritize for protecting the health and well-being of building occupants.

PROPOSED SOLUTIONS

Note, many of the solutions discussed by the Cohort reflect opportunities to bring our existing building stock up to net zero standards, in addition achieving net zero new construction. The recommendations below capture solutions for both new and existing buildings.

Electrification Rebates: Group discussions supported expanding electrification-specific rebates targeted at existing equity-priority households. Another idea was

creatively using the fees collected from Exterior Energy Offset or Renewable Energy Mitigation Programs (community-specific programs that mandate installing solar or paying a fee that is equal to the cost of installing solar to offset energy used for outdoor gas equipment) to offset costs of electrification retrofits. It was noted that the local utilities as well as the CBOs offer rebates for electrification and efficiency projects in existing buildings. Aligning these rebates across the region will help simplify access to fund these important projects.

Health Messaging: Members suggested that public outreach programs could include a stronger emphasis on the health benefits of electrification, using research and case studies as evidence to support this message. In addition, leveraging metrics such as the Social Cost of Carbon when communicating net zero code updates or approaches to a wide audience can help tell the story of the health and societal costs avoided by eliminating carbon in our new buildings through a net zero approach.

EDUCATION AND OUTREACH

Education and outreach were also flagged as important pieces to assure that low-income and underserved communities can access the benefits of net zero new construction. The Eagle County equity study emphasized that language barriers often prevent residents, especially in Spanish-speaking communities, from obtaining information about energy efficiency programs, rebates, and financial assistance.

PROPOSED SOLUTIONS

Note, many of the solutions discussed by the Cohort reflect opportunities to bring our existing building stock up to net zero standards, in addition achieving net zero new construction. The recommendations below capture solutions for both new and existing buildings.

Bilingual Outreach: There is a need for conducting “robust bilingual outreach” to help community members access programs and resources for energy efficiency upgrades, electrification retrofits, energy storage, and electric vehicles and charger installations. It was noted that outreach from CBOs or other trusted community members or cultural brokers should be leveraged to reach equity-priority

community members who are sometimes more hesitant to engage with local governments or utility companies.

Consistent Messaging: The cohort also stressed that “there needs to be consistent messaging that is uniform to all agencies.” Uniformity across communities is essential to ensure residents, local governments, and the workforce all understand the goals and benefits of net zero new construction. Without clear communication, people may miss opportunities to reduce energy bills, make energy-related upgrades in existing buildings, or live in newly constructed sustainable housing.

GAPS AND FUTURE WORK

While the Roadmap work has made some strides towards addressing equity, there were gaps in how underrepresented groups were included in the creation of this Roadmap. It was recognized by the Cohort that as this Roadmap is implemented, CBOs and other trusted community partners should engage with equity-priority community members to gain input and insights on how the energy code can be leveraged to deliver more equitable outcomes. Future engagement must be more inclusive, actively involving these communities in decision-making processes. This will require targeted outreach, providing materials in different languages, and working with local community organizations to build trust and foster participation from those who are most affected by building-related inequities.

Additionally, equity plays a key role in code enforcement and implementation. If stakeholders don't follow new net zero energy codes correctly, it could create future equity issues for building occupants. Ensuring the workforce receives proper training to meet the new requirements is just as important as setting equity-focused standards, as both are needed to deliver fair outcomes for the entire community.

Green Workforce Development

Reaching net zero new construction in the region by 2030 depends on building a workforce with the right green building skills. Implementation of this Roadmap will require knowledge of energy-efficient building systems and design, renewable energy, energy storage integration, and electrification. A big part of reducing carbon

emissions in buildings is closing the gap between what the workforce can do now and what will be needed in the future.

To help inform the current workforce gaps and opportunities, a Colorado-based consulting firm, Inclusive Design Group (IDG), completed a study in 2024 analyzing green building workforce development in Pitkin, Eagle, and Garfield Counties. The results of the study show there is strong movement in the region toward green building in the future of skilled trades. The region is seeing growing demand for workers with skills, certifications, and hands-on experience in weatherization, insulation, and heat pump installation. Meeting this demand is essential for achieving the Roadmap's net zero goals; however, even without the anticipated code changes, the existing demand underscores a growing need for green workforce development. The study also indicates that in areas of the region with lower wages, there is higher demand for skilled tradespeople, suggesting that the workforce moves to the areas where they are paid better. Workforce development strategies to better spread the workforce throughout the region and meet the demand of green building skills emerging from the study include but are not limited to:

- **Expanding skilled trades:** As the region moves towards enhanced building codes and electrification incentives or requirements, there will be a growing need for electricians, HVAC specialists, insulation installers, and other tradespeople skilled in green building skills. Workforce development initiatives should focus on training current workers in new technologies and techniques — such as heat pump installation and residential energy efficiency upgrades — which are essential for net zero buildings, as the cohort is defining them.
- **Creating partnerships:** The region's educational institutions, including Colorado Mountain College and local high school Career and Technical Education (CTE) programs, play a key role in creating a strong pipeline of future green building professionals. For instance, Colorado's K-12 education system offers career pathways that combine apprenticeships and industry credentials as part of a high school diploma. Through the Climate Literacy Diploma Endorsement, established by Colorado Senate Bill 24-014, public high schools can offer students specialized coursework in green building as part of their Career and Technical Education (CTE) programs.

Businesses have an important role as well. Local businesses are encouraged to work with the workforce and training organizations to help prepare employees for the transition to net zero standards.

- **Incentivizing and Funding Training:** Funding that provides scholarships for apprenticeship programs, bootcamps for new skills, certifications, and incentives for strengthening career pathways will be an important piece to building the green workforce quickly.

In addition to the study completed by IDG, a series of Listen & Learn sessions were hosted by the community non-profits supporting this work (Walking Mountains, CORE, and CLEER). These sessions were used to get input from the current building industry on the Roadmap and the net zero approach outlined by the local governments.

LISTEN AND LEARN KEY TAKEAWAYS

Through six community-focused listening sessions, the region's community nonprofits and the project management team listened to the needs and input from the new construction and existing building industries to better understand current gaps and opportunities for moving forward net zero construction standards. The following themes were synthesized from input received through the six community events.

Key Themes:

1. Code Adoption and Alignment

A major theme in the discussions was the challenge of aligning building codes across jurisdictions. Several participants highlighted the complexity and inconsistencies that arise when different areas adopt varying code versions, creating confusion for contractors and complicating project approvals. There were suggestions to align all jurisdictions on the same code cycle every three years, though participants acknowledged that the region's diverse demographics make this difficult to achieve. There was also support for simply adopting state minimum codes across the region, rather than allowing each jurisdiction to develop its own differentiated standards. Some felt that without

consistent implementation, it will remain “hard to get traction” on net zero efforts.

Participants also expressed legal fears around pushing net zero codes, citing communities who have received lawsuits as well as the potential for future legal challenges if strict codes are adopted.

2. Workforce Development and Housing Challenges

The theme of workforce development is central, with discussions highlighting difficulties in finding skilled workers and keeping staff. Participants suggested housing costs and insufficient wages contribute to this issue. “At \$23/hour people can’t afford to live” in areas like Carbondale, forcing workers to move further away and increasing commuting costs. There was also mention of the HVAC industry facing retention issues, with one contractor noting that “sub[contractors] can’t keep folks on their staff.” It was reported that other industries that offer easier work or more standard hours are paying higher wages and therefore discouraging young people from coming into the green building industry.

Regarding skilled worker education, “the future of skilled trades is green building” was an agreed upon statement, but it was recognized that building this green workforce capacity quickly is difficult. Using existing systems and partners (e.g., colleges, chambers of commerce) to develop interest in these trades will be important.

3. Electrification and Affordability

Affordability was a recurring theme within discussions, particularly regarding costs associated with electrification. Participants were concerned about whether or not the costs of new, electrified systems would be affordable, both in new construction and retrofits. However, some are seeing the cost gap between electric and gas HVAC systems shrink over time. There were also concerns about retrofits due to the costs and technical issues.

Generally, participants found it to be important to balance affordability with the push for electrification.

4. Technological Challenges and Market Gaps

Several technological challenges were raised, particularly related to the grid's readiness for electrification and the availability of appropriate technology in the area. Concerns about the grid's capacity for increased electrical loads were noted, with participants saying, "People are concerned about the maturation of the grid," and there is skepticism that "the grid will be ready for the electrification that we are encouraging." However, it was noted by utility representatives that the utilities have seen electrification coming and have been preparing for increased loads for years. Additionally, the availability of suitable heat pump brands and the impact of upcoming refrigerant regulations on heat pump cost were seen as future areas of concern.

5. Equity and Community Involvement

Another recurring theme was equity, particularly in ensuring that net zero goals are implemented in a way that benefits all parts of the community. Some attendees expressed concerns about how net zero initiatives would impact affordable housing, asking, "How does this impact affordable housing?" There were also concerns about whether wealthy communities, which can afford more expensive retrofits and new technologies, would benefit disproportionately compared to lower-income areas.

Additionally, there was a call for community engagement and making sure that the local population is heard. One participant mentioned the need for "constituents to make a difference" and share with local councils what they want. This suggests a need for greater grassroots involvement in shaping policies.

Overall, these themes reflect the varying concerns and priorities raised during the meetings, including the importance of workforce development, technological readiness, and equity and affordability. However, the discussions frequently included a strong call for greater regional consistency in moving toward net zero goals. Participants repeatedly emphasized that aligning building codes across jurisdictions is essential to reduce confusion, streamline project approvals, and drive meaningful progress toward net zero goals. Achieving regional consistency will not only help

contractors and local governments work more efficiently but also ensure that the benefits of sustainability efforts are shared equitably across all communities, regardless of demographics or location. This unified approach is critical to gaining the traction needed to meet the ambitious net zero targets.

Next Steps and Future Work

Realizing the ambitious goals in this Regional Net Zero Roadmap requires continuous collaboration and communication amongst building and sustainability staff throughout the valleys. Each county in the region has a community nonprofit (CORE, Walking Mountains, and CLEER) that will be actively working with local government staff and leadership to progress the Roadmap between now and 2030.

Resulting from the Cohort efforts, the following next steps were identified to ensure the Roadmap is executed in a regionally-aligned way. These actions will require collaboration between the community nonprofits, local government elected officials, building and sustainability department staff, and other building sector stakeholders:

- 1. Continued Collaboration:** Reconvene the Mountain Building Code Officials group and appoint a new community leader to facilitate the sessions. Collaborate with CORE, CAC, and CLEER to identify the training, information, and resources needed by regional building officials to understand and incorporate net zero roadmap concepts into the building code, including aspects like energy storage system, fire safety, and all-electric technology.

Before the next code adoption cycle, reconvene the relevant groups to ensure alignment and progress (and consider if this should be time-bound or flexible).
- 2. Review funding opportunities:** Review state grant opportunities, such as the Energy Code Adoption & Enforcement Grant Program from the CEO (as of 2024), to support ongoing facilitation of the cohort, fund cost studies and other resource development, provide additional capacity to local Community-Based Organizations (CBOs), and support local government staff with compliance and enforcement.
- 3. Provide regular updates and share resources:** Ensure that CAC, CORE, and CLEER provide regular updates to the entire Cohort regarding advancements in the region's building codes so that all communities are informed about their neighbors' progress.

- 4. Turn focus to existing buildings:** After adopting the net zero code for new construction, expand efforts to improve energy efficiency and reduce emissions in existing buildings. Work with CORE, CAC, and CLEER to evaluate equitable retrofitting incentives, set performance benchmarks, and explore policies for broader climate goals.

Conclusion

The Regional Net Zero Roadmap provides a detailed pathway for transitioning new construction in Eagle and Pitkin Counties to net zero, as it is defined by this Roadmap, by 2030. Through collaboration, workforce development, and a phased approach to code adoption, the region is well-positioned to meet its climate goals for newly constructed homes and buildings. By addressing equity concerns and investing in the local workforce, the region can ensure that the benefits of clean energy and energy-efficient buildings are shared by all community members.

The regional effort to create the Net Zero Roadmap demonstrates the region's need, ability, and opportunity to look beyond regional and jurisdictional boundaries to advance critical carbon reduction strategies. The active participation and alignment across the region make clear that there is a desire from regional partners to continue to foster regional alignment and collaboration for this and future efforts.



Acknowledgements

The creation of this Roadmap would not have been possible without the time and attention of building and sustainability department staff from jurisdictions across Eagle County, Pitkin County, and Garfield County and utility representatives. In addition, the dedicated staff from community coordinating entities of Walking Mountains Science Center, Aspen Community Office of Resource Efficiency, and Clean Energy Economy for the Region, as well as technical experts from Shums Coda and Biospaces Consulting were crucial to ensuring this effort was well managed and well informed.

JURISDICTIONAL STAFF PARTICIPANTS

Eagle County

Bill Gibson – Community Development
Director
Dave Larkin – Building Official
John Gitchell – Environmental
Manager

Vail

Daniel Brown – Building Official
Cameron Millard – Energy Efficiency
Coordinator

Minturn

Eric Gotthelf – Council Member
Brian Rodine – Council Member

Avon

Derek Place – Building Official
Charlotte Lin – Sustainability
Coordinator

Town of Eagle

Eddie Wilson – Building Official
Jackie VanEyll – Permit Technician
Kira Koppel – Sustainability
Coordinator

Gypsum

Shane Gremmer – Building Official

Red Cliff

Melissa Matthews – Town Manager

Basalt

Mitch Miller – Building Official
Sara Nadolny – Senior Planner
Michelle Thibeault – Planning Director

Pitkin County

Jeffrey Erickson – Building Official
Michael Port – Climate Action Analyst
John Houghton – Permit Technician

Aspen

Bonnie Muhigirwa – Building Official
Clare McLaughlin – Sustainability
Programs Administrator
Nick Thompson – Plans Examiner

Snowmass Village

Greg LeBlanc – Assistant Town
Manager
Mike Methaney – Building Official

Garfield County

John Plano – Chief Building Official

New Castle

Paul Smith – Town Planner/Inspector

Glenwood Springs

Victor Meraz – Chief Building Official

Carbondale

Lauren Gister – Town Manager

UTILITY REPRESENTATIVES**Holy Cross Energy**

Mike Steiner – Key Accounts
Kyle Lord – Smart Energy and Building
Specialist
Kimbrell Larouche – Distributed Energy
Resources Specialist

Aspen Utilities

Justin Forman – Director of Utilities
Erin Loughlin – Field Operations
Manager

Black Hills Energy

Jason Auslander – Community Affairs
Manager

Glenwood Municipal Utilities

Doug Hazzard – Electric
Superintendent
Matt Langhorst – Public Works Director

Xcel Energy

Blair McGary – Eagle County Rep
Brad McCloud – Garfield County Rep
Rob Buchanan – Portfolio Product
Manager
Aaron Esselink – Product Portfolio
Manager

PROJECT MANAGEMENT TEAM AND TECHNICAL CONSULTANTS

Lotus Engineering and Sustainability

Kim Schlaepfer – Lead Project Manager

Claire Kantor – Project Support

Molly Marcucilli – Project Support

Walking Mountains / CAC

Gina McCrackin – CAC Project Manager

Nikki Maline – CAC Project Support

CORE

John Dougherty – CORE CEO

CLEER

Morgan Hill – Assistant Director

Heidi McCullough – Buildings Specialist

SWEEP

Christine Brinker – Senior Building Policy Manager

Biospaces Energy Consulting

Jeff Dickinson – Owner, Code Consultant

Shums Coda

Hope Medina – Code Consultant

Josh Harmon – Code Consultant

Inclusive Design Group

Paula Gumina – Workforce Study Consultant

REPORT PHOTOS

All pictures in this report were provided by the Community Office for Resource Efficiency (CORE), and the photos on pages 1 and 9 are courtesy of Daniel Bayer Photography.

A Regional Roadmap for a New Net Zero

Redefining Net Zero and Aligning New Construction Codes

November 2024

Report prepared by Lotus Engineering and Sustainability



A Regional Roadmap for a New Net Zero

Redefining Net Zero and Aligning New Construction Codes in the Eagle River and Roaring Fork Valleys

November 2024

Photo courtesy of Daniel Bayer Photography, provided by the Community Office for Resource Efficiency (CORE).

Table of Contents

Why We Need a Net Zero New Construction Roadmap	1
Introduction	2
A New Net Zero	3
Residential Roadmap	4
Commercial Roadmap	5
2027 and 2030 Re-Evaluation	6
Equity	7
Green Workforce Development	9
Future Work	11
Appendix A: Net Zero Roadmap Participants	12

Abbreviations

AHJ – Authority Having Jurisdiction
CAC – Climate Action Collaborative
CORE – Community Office of Resource Efficiency
CLEER – Clean Energy Economy for the Region
EEOP – Exterior Energy Offset Program
EV – Electric Vehicle
HVAC – Heating, Ventilation, and Air Conditioning
REMP – Renewable Energy Offset Program
PV – Photovoltaic



Why We Need a Net Zero New Construction Roadmap

Our mountain region is facing increasing climate threats as Statewide climactic changes warm our local climate. The local governments in the Eagle River and Roaring Fork Valleys recognize this threat and have established strong goals to ensure we reduce our local carbon emissions to secure a vibrant and resilient future for our communities.

The Net Zero New Construction Roadmap (Roadmap) is a local government and utility staff-led effort to identify how we can achieve zero carbon emissions for all new buildings, in line with our climate action goals, by 2030, while maintaining housing affordability, and bolstering our local workforce to deliver on these objectives.

Through this collaborative effort, we defined what "net zero" truly means for our mountain region, providing a clear path for local governments to adopt energy codes that will achieve net zero newly constructed buildings by 2030. This unified approach ensures that our region will effectively tackle climate challenges while fostering economic growth and sustainability.



Photo courtesy of Daniel Bayer Photography, provided by the Community Office for Resource Efficiency (CORE).



Introduction

In 2024, a Cohort of building department and sustainability staff, sustainability and building code experts, and local utility company representatives from communities within the Roaring Fork and Eagle River Valleys convened to develop a Net Zero New Construction Roadmap (Roadmap) for new residential and commercial buildings. This effort aims to encourage a regionally consistent building code that will progress toward eliminating greenhouse gas emissions from newly constructed buildings, support the local workforce, and improve overall housing affordability.

The Roadmap plays an important role in supporting Colorado's ambitious climate goals of reducing emissions by 50% by 2030 and 90% by 2050. While it contributes significantly to these objectives, it is part of a broader strategy that will be necessary to meet the comprehensive emissions reductions needed in the built environment. The Roadmap also aligns with local climate action plans that prioritize emissions reductions, particularly focusing on the emissions impact of new construction.

This Net Zero New Construction Roadmap provides a stepped approach for local governments to use as a guide for adoption of energy codes and beyond-code programs for future building code adoption cycles, with the end goal of adopting and enforcing a code standard that achieves new net zero buildings by 2030.

The Roadmap includes core elements that address carbon emissions of new buildings and phase out fossil fuel systems. The core elements of the Roadmap include energy efficiency, electrification, energy storage, renewable energy, and demand response. While the Roadmap does not explicitly address embodied carbon and electric vehicles, these are encouraged to be additional considerations for each jurisdiction as they update their energy codes between now (2024) and 2030.



Key objectives of the roadmap include:

- 1 Re-define what “net zero” energy use for newly constructed buildings means in our local context.
- 2 Eliminate operational GHG emissions that are generated by newly constructed homes and commercial buildings’ energy use in the region (except for special circumstances).
- 3 Provide local government staff and elected leaders a clear pathway to follow for new construction energy code updates to enforce net zero building requirements, as defined in this Roadmap, by 2030.
- 4 Support ongoing collaboration amongst local government staff and elected leaders to adopt the same building energy codes that result in net zero buildings by 2030, so the rules and standards across the region are consistent.

A New Net Zero

During discussions, the cohort recognized that a net zero building can mean many different things to different types of stakeholders. As a result, the cohort agreed on a unique description of a net zero building that everyone in the region can work toward. In addition, the region represented in this Roadmap is served by electric utilities rapidly on their way to supplying 100% renewable, carbon-free electricity [1]. This fundamental shift in our regional energy supply, led by our progressive electric utilities, allowed the Cohort to envision what “net zero” means if the electric grid is supplying the clean energy a building needs, rather than each individual building producing it itself.

For the purposes of this roadmap and the region, a net zero building is a building that has the following attributes:

- **Is powered by electricity;**
- **Uses renewable energy from the grid and/or onsite generation;**
- **Has the ability to store energy and/or shift energy use to reduce peak demand on the electric grid;**
- **Achieves energy performance above base International Energy Conservation Code;**
- **Is designed to minimize embodied carbon; and**
- **Is EV-ready.**



RESIDENTIAL New Construction Roadmap

	Step A Suggested time frame: 2024–2026	Step B* Suggested time frame: 2026–2029	Step C* Suggested time frame: 2030 and beyond
Energy Efficiency	Adopt the 2021 or 2024 IECC base code and the required state Electric and Solar Ready Code, at a minimum.	Adopt the State Minimum Code (HB22-1362): State Low Carbon and Energy Code based on the 2024 IECC or the 2027 IECC. <i>Note: The new state minimum is required for jurisdictions updating building codes starting July 1, 2026.</i>	Adopt the most recent IECC. Identify above code options to drive additional residential energy efficiency as necessary.
Home Size Threshold	Higher energy efficiency must be demonstrated in homes over a certain size.		
Electrification	Electric-preferred code to encourage electrification of new buildings, along with, electric-readiness for all energy end uses in a building.	All-electric with exceptions for gas supplemental heat, emergency generators, and other items as decided by AHJs or building officials.	All-electric with no OR rare exceptions as decided by AHJs or building officials.
Energy Storage	Utilize the REMP or EEOP Programs to incentivize battery storage. For AHJs requiring PV for new buildings, energy storage is strongly encouraged or incentivized to be installed with the PV system.	Utilize the REMP or EEOP to incentivize battery storage. Energy storage is required if a new PV system is installed.	Utilize the REMP or EEOP to incentivize battery storage. Energy storage is required if a new PV system is installed.
Renewable Energy Pathway 1: For jurisdictions with existing Solar Requirements	Solar is required. If solar is installed, energy storage is required to be installed with the PV system.	Solar is required to offset remaining "non-renewable" energy being consumed from the electric grid. If solar is installed, energy storage is required with the PV system.	Solar-readiness is required. Solar installation is optional, as long as utilities have accomplished 100% renewably powered grid.
Renewable Energy Pathway 2: For jurisdictions with existing Solar-Ready Requirements	Solar-readiness is required.	Solar-readiness is required. If solar is installed, energy storage is required with the PV system.	If solar is installed, energy storage is required to be installed with the PV system.
Demand Response	None.	Demand response controls for electric water heaters are required (per state law CRS 6-7.5-101-110, effective Jan 1, 2026)	Demand response controls for electric water heaters and for thermostats are required.

*See 2027 & 2030 Re-evaluation



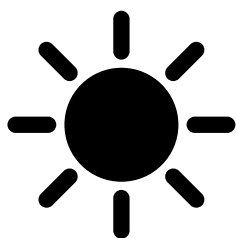
COMMERCIAL New Construction Roadmap

	Step A Suggested time frame: 2024–2026	Step B* Suggested time frame: 2026–2029	Step C* Suggested time frame: 2030 and beyond
Energy Efficiency	Adopt the 2021 or 2024 IECC base code and the required state Electric and Solar Ready Code, at a minimum.	Adopt the State Minimum Code (HB22-1362): Low Carbon and Energy Code based on the 2024 IECC or the 2027 IECC. <i>Note: The new state minimum is required for jurisdictions updating building codes starting July 1, 2026.</i>	Adopt the most recent IECC. Identify <i>above code options</i> to drive additional commercial energy efficiency.
Electrification	Electric-preferred code to encourage electrification of new buildings, along with electric-readiness for all energy end uses in a building.	All-electric with some exceptions as decided by AHJs or building officials OR Adopt a stronger electric-preferred standard with increased efficiency requirements.	All-electric with rare exceptions as decided by AHJs or building officials. <i>Note: Evaluate all rare exceptions prior to adoption to ensure they are relevant, based on how electrification technology has evolved.</i>
Energy Storage	Utilize the REMP or EEOP to incentivize battery storage. For AHJs requiring PV for new buildings, energy storage is required to be installed with the PV system.	Utilize the REMP or EEOP to incentivize battery storage. Energy storage is required if a new PV system is installed.	Utilize the REMP or EEOP to incentivize battery storage. Energy storage is required if a new PV system is installed.
Renewable Energy Pathway 1: For jurisdictions with existing Solar Requirements	Solar is required on commercial buildings over 5,000 sq ft. If solar is installed, energy storage is required to be installed with the PV system.	Solar is required to offset remaining "non-renewable" energy being consumed from the electric grid for commercial buildings over 5,000 sq ft. If solar is installed, energy storage is required to be installed with the PV system.	Solar-readiness is required. Solar installation is optional, as long as utilities have accomplished 100% renewably powered grid.
Renewable Energy Pathway 2: For jurisdictions with existing Solar-Ready Requirements	Solar-readiness is required.	Solar-readiness is required. If solar is installed, energy storage is required to be installed with the PV system.	If solar is installed, energy storage is required to be installed with the PV system.
Demand Response	None.	Demand response controls for some electric water heaters are required (per state law CRS 6-7.5-101-110, effective Jan 1, 2026 for small commercial applications 40-120 gallons).	Demand response controls for all electric water heaters and for thermostats are required.

*See 2027 & 2030 Re-evaluation

2027 and 2030 Re-Evaluation

This Roadmap is based on the current understanding of net zero strategies, costs, policies, technology, and utility support, all of which may evolve before 2030. To meet the Roadmap's goals, ongoing collaboration and re-evaluation during each code cycle are essential. Communities and utility representatives should reconvene with technical and workforce experts ahead of 2027 and 2030 code cycles to review renewable energy, energy storage, and demand response elements, aligning on new data, state policies, and regional standards.



Renewable Energy: As utilities integrate more large-scale renewables, the role of onsite solar may shift to resiliency, and changes in net metering rules or financial incentives could affect adoption.



Energy Storage: Rapid advancements in energy storage may influence utility incentives and grid management needs, shifting demand between residential and commercial systems by 2030.



Demand Response: With rising demand from electrification and EVs, demand response may, over time, become more important for balancing grid supply, keeping energy affordable, and maintaining reliability of the electrical grid.



Equity

There is a need to address equity in building energy policy development and implementation, recognizing that inefficient and outdated buildings unfairly impact equity-priority community members and businesses. Homes or other buildings, when built poorly or to old energy code standards, lead to higher energy bills, poor indoor air quality, and increased health risks. As building technologies improve and the electric grid becomes cleaner, there is an opportunity to build net zero from the start. Doing so can lower energy costs, improve health outcomes, and ensure that no community member is left behind with older, polluting systems in the places where our community lives, works, and plays.

The Roadmap development process identified key equity concerns, one of which was a desire to minimize upfront costs of new construction, which could support more accessible and affordable housing for community members in each valley, while ensuring new construction meets high efficiency standards. Through case studies from new buildings across the three county region and other Colorado mountain communities, it's been shown that all-electric, high efficiency new buildings are feasible without a higher price tag if the design and intent to build net zero is a goal from the start [2]. Proposed solutions to ensure housing affordability does not come at the sacrifice of energy efficiency include expanding green financing options for affordable net zero housing or using the permitting process to reduce fees or review time for all-electric and/or energy-efficient buildings.

The Eagle County Climate Equity Plan engaged with community members through a survey, which revealed that 72% of Spanish-speaking survey takers and 32% of English-speaking survey takers use money meant for important needs, like food and medicine, to pay their energy bills instead. Additionally, renters, who often live in less energy efficient properties, face additional barriers like landlords being unwilling to make energy-saving upgrades [3].



Electrification emerged as a critical equity issue as well. Electrification offers significant health benefits by eliminating indoor pollution from gas-powered systems through the installation of highly efficiency, all-electric systems that also lower operational costs. However, participants noted that without energy efficiency measures, inefficient electrification could increase utility costs for low-income families. Because of this, our Roadmap to Net Zero includes regular updates to the International Energy Conservation Codes, which will ensure high performing envelopes and high efficiency systems will enable beneficial electrification for all community members.

It was noted through this effort that the project scope limited the Cohorts ability to engage with members of the public who are experiencing energy burden in our communities. As the Roadmap implementation advances and each subsequent code cycle is adopted, inclusive engagement with low income and underrepresented groups will be crucial in shaping building energy codes that delivers equitable outcomes for everyone.



Photo courtesy of the Community Office for Resource Efficiency (CORE).



Green Workforce Development

Achieving net zero new construction by 2030 relies on a skilled workforce proficient in green building practices, including energy-efficient systems, renewable energy, energy storage, and electrification. Addressing existing workforce gaps and planning for future growth is essential to reducing carbon emissions and meeting future demands.

A 2024 study by Inclusive Design Group (IDG) on green building workforce development in Pitkin, Eagle, and Garfield Counties found a significant shift toward green building within skilled trades, revealing strong demand for expertise in weatherization, insulation, and heat pump installation. Meeting this demand is crucial for the Roadmap's net zero goals, particularly in areas with lower wages where demand for skilled tradespeople is higher. Key strategies to enhance green workforce development include:

- **Expanding Skilled Trades:** Workforce initiatives should focus on training existing workers in new technologies and techniques needed for net zero buildings, especially as building codes evolve.
- **Creating Partnerships:** Educational institutions, such as Colorado Mountain College and local high schools, play a critical role in developing future green building professionals.
- **Incentivizing and Funding Training:** Scholarships for apprenticeship programs and skills training will be vital for rapidly developing the green workforce.

In addition, community nonprofits focused on climate solutions in our region, including Walking Mountains (WM), Community Office of Resource Efficiency (CORE), and Clean Energy Economy for the Region (CLEER) conducted "Listen & Learn" sessions to gather industry insights on the Roadmap.



Key themes from these discussions show support for the goals of this Roadmap and highlight the regional challenges we may face as these goals advance:

1

Code Adoption and Alignment: Participants stressed the need for consistent building codes across jurisdictions to avoid confusion and streamline approvals and support industry in understanding and complying with the code requirements. Companies emphasized it cannot be the responsibility of the private sector to convince customers to go net zero. If the code requires net zero, local businesses can get there.

2

Workforce Development and Housing Challenges: Finding and retaining skilled local workers remains challenging due to high housing costs and low wages.

3

Electrification and Affordability: Affordability concerns regarding electrification costs in new construction and retrofits were noted, highlighting the need for balancing cost considerations while pursuing electrification. It was also noted, by a local contractor that heat pump installations are at an all time high in our mountain community, including in multifamily buildings.

4

Technological Challenges: Participants expressed perceived concerns about grid readiness for electrification and the availability of suitable technology in the area to meet electrification goals. *Note: Despite these concerns, through extensive engagement with the local utilities serving the region, the utilities that participated (Appendix A) emphasized that the grid is ready for electrification.*

5

Community Involvement & Education: Ensuring net zero initiatives benefit all community members is essential, especially across the large income gaps in our community. Increased community education and engagement in policy shaping will be essential so the building industry knows why codes are moving to net zero and can support these goals.

These insights underline the importance of workforce development, technological readiness, and equitable access as the region works towards net zero goals. Consistent building codes are crucial for reducing confusion and advancing sustainability efforts equitably across communities.



Future Work

The Regional Net Zero Roadmap defines a pathway to adopt regionally consistent codes for net zero construction by 2030. Achieving this goal requires ongoing collaboration among sustainability and building department staff within local governments, as well as community members in the building industry. Next steps include:

- 1 Continued collaboration:** Convene the cohort or regional partners before each code cycle to align on net zero amendments, share lessons, and establish new regionally consistent code standards in alignment with this Roadmap. With support from local nonprofits, reconvene the Mountain Building Code Officials group and work with CORE, CAC, and CLEER to provide regional officials with necessary training and resources.
- 2 Review funding opportunities:** Identify state or other grants to fund cohort facilitation, resource development, and cost studies. Additional funds could support local Community-Based Organizations (CBOs) and bolster compliance efforts in building departments.
- 3 Provide regular updates and share resources:** CORE, CAC, and CLEER should give regular updates on code progress to ensure that all communities stay informed. Communities should also exchange insights, studies, and data to support collaborative code development.
- 4 Turn focus to existing buildings:** After adopting the net zero code for new construction, expand efforts to improve energy efficiency and reduce emissions in existing buildings. Work with CORE, CAC, and CLEER to evaluate equitable retrofitting incentives, set performance benchmarks, and explore policies for broader climate goals.



Appendix A

Net Zero Roadmap Participants

Project Manager

- Lotus Engineering & Sustainability

Local Governments

- Town of Avon
- Town of Basalt
- Town of Eagle
- Eagle County
- Town of Minturn
- Town of Red Cliff
- Town of Vail
- City of Aspen
- Pitkin County
- Town of Snowmass Village
- City of Glenwood Springs
- Town of Carbondale

Utilities

- Xcel Energy
- Holy Cross Energy
- Aspen Utilities
- Glenwood Springs Electric & Public Works
- Black Hills Energy

Technical Experts Advising on the Project

- Shums Coda Associates
- Biospaces Energy Consulting
- Southwest Energy Efficiency Project

Community Nonprofits

- Community Office of Resource Efficiency (CORE)
- Climate Action Collaborative at Walking Mountains (CAC)
- Clean Energy Economy for the Region (CLEER)

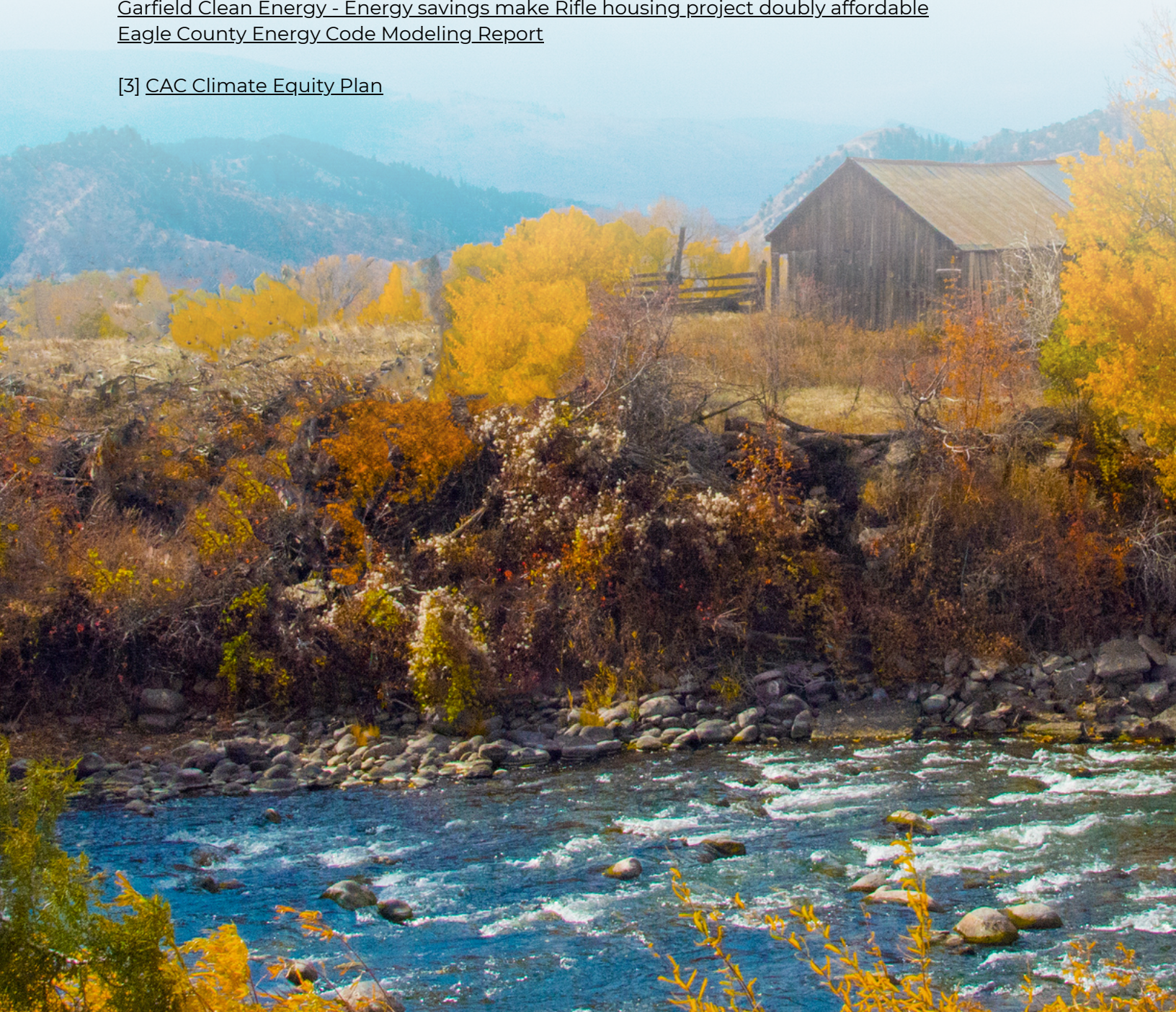


End Notes

[1] [Aspen's Path to 100% Renewable Electricity](#)
[City of Glenwood Springs, Energy and Climate Action Plan 2024](#)
[Holy Cross Energy Annual Report 2023](#)
[Xcel Energy 2023 Sustainability Report](#)

[2] [Cost-Effectiveness of the 2021 IECC for Residential Buildings in Colorado — 2015 IECC Baseline](#)
[SWEEP - Breckenridge shows how affordable and sustainable housing can be all-electric too](#)
[Garfield Clean Energy - Energy savings make Rifle housing project doubly affordable](#)
[Eagle County Energy Code Modeling Report](#)

[3] [CAC Climate Equity Plan](#)



Report prepared by
LOTUS
Engineering & Sustainability



A Regional Roadmap for a New Net Zero

**Redefining net zero and aligning on new
construction codes**

**Town of Eagle Work Session
June 2025**

Guest Speaker

Holy Cross Energy, local energy utility



Introduction



Background & Work Completed to Date

2022–2023: Eagle County Code Cohort

- *Currently, Eagle County, Avon, Minturn, Eagle – all on the exact same energy code!*

2024– March 2025: Regional Net Zero Roadmap Cohort

- Addt funding from CEO to continue regional collaboration and build a Roadmap to achieve new construction decarbonization goals.
- Elected to expand regional work to include Pitkin County & Garfield County.
 - Share a utility
 - Share a workforce
 - Share common challenges

June 2025–2026: Regional Workforce Training and Roadmap Implementation

- Even more funding from CEO to support regional training and collaboration, gathering key data, and implementing the Roadmap



Net Zero Code Roadmap Goals

Purpose

Align the region on future building code updates required to implement a net zero energy code by **2030**.

Goals of Roadmap

- Consistency and regional alignment on building and energy codes.
 - Support workforce in having less variation in local building codes to understand and comply with.
- Support local government staff in creating a pathway to achieve net zero buildings by 2030.
- Achieve Climate Action Plan Goal to implement a net zero code by 2030.
- Continue to meet and exceed State of CO minimum energy code requirements.



Net Zero Code Roadmap: Partners

PM



LOTUS

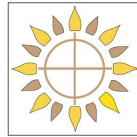
Engineering & Sustainability

Tech
Advisors

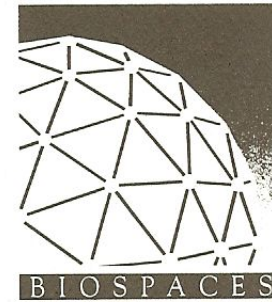


SWEEP

SOUTHWEST ENERGY EFFICIENCY PROJECT



SHUMS CODA
ASSOCIATES



BIOSPACES

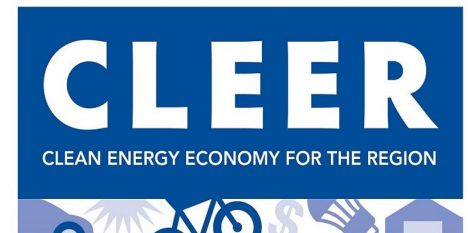
Comm.
Partners

**CLIMATE
ACTION**
COLLABORATIVE

**Walking
Mountains**



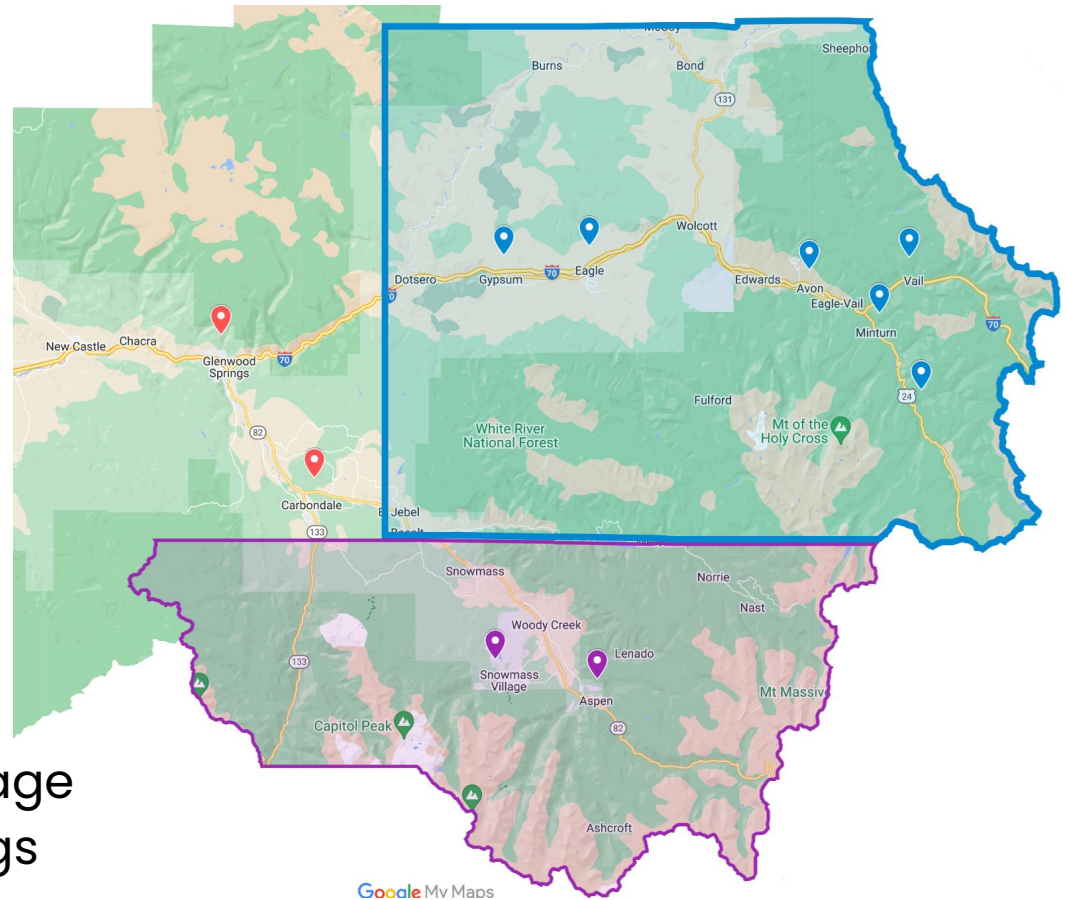
CORE
Community Office for Resource Efficiency



Project Participants

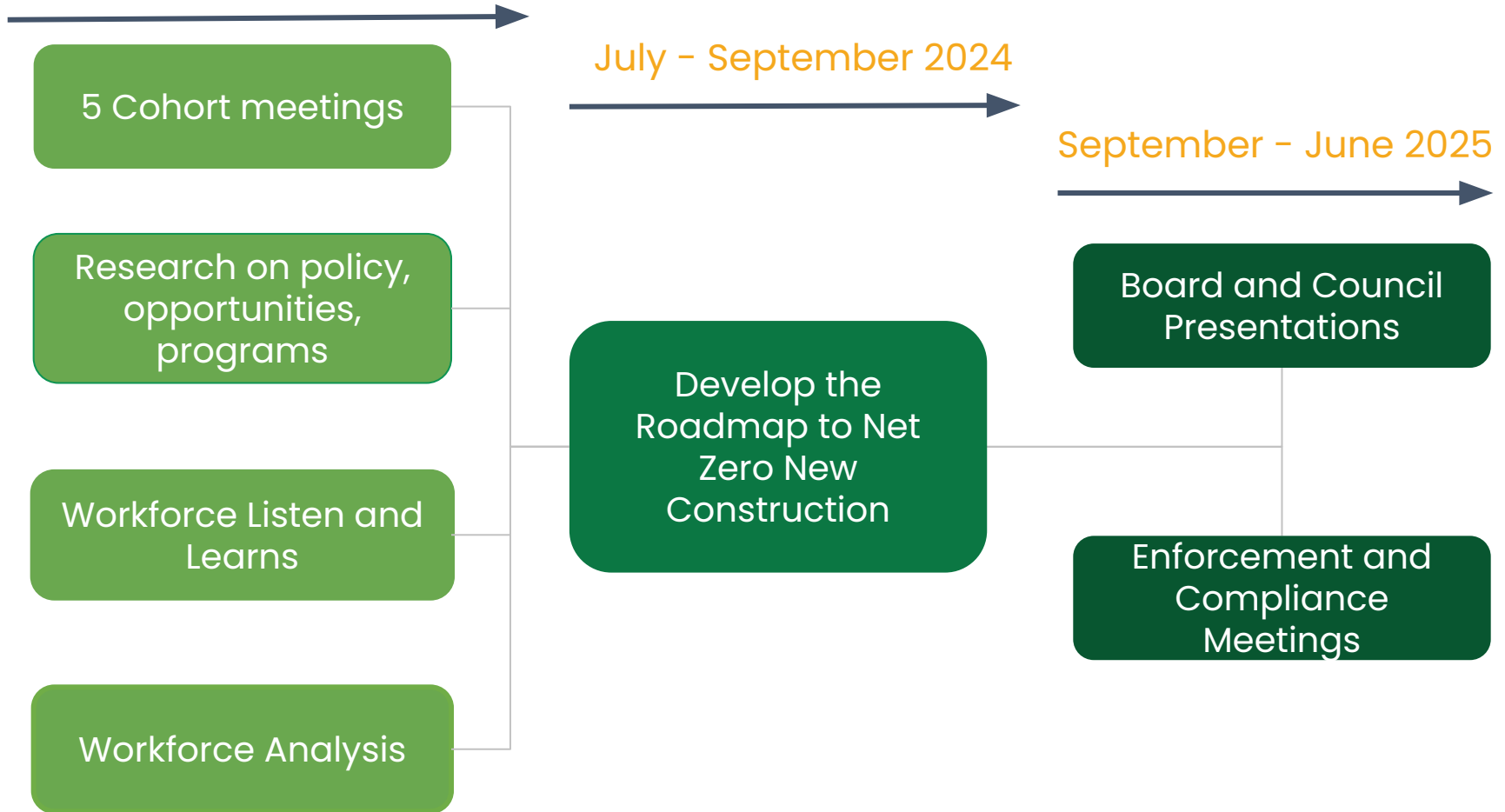
Communities:

- Town of Avon
- Town of Basalt
- Town of Eagle
- Eagle County
- Town of Gypsum
- Town of Minturn
- Town of Red Cliff
- Town of Vail
- City of Aspen
- Pitkin County
- Town of Snowmass Village
- City of Glenwood Springs
- Town of Carbondale



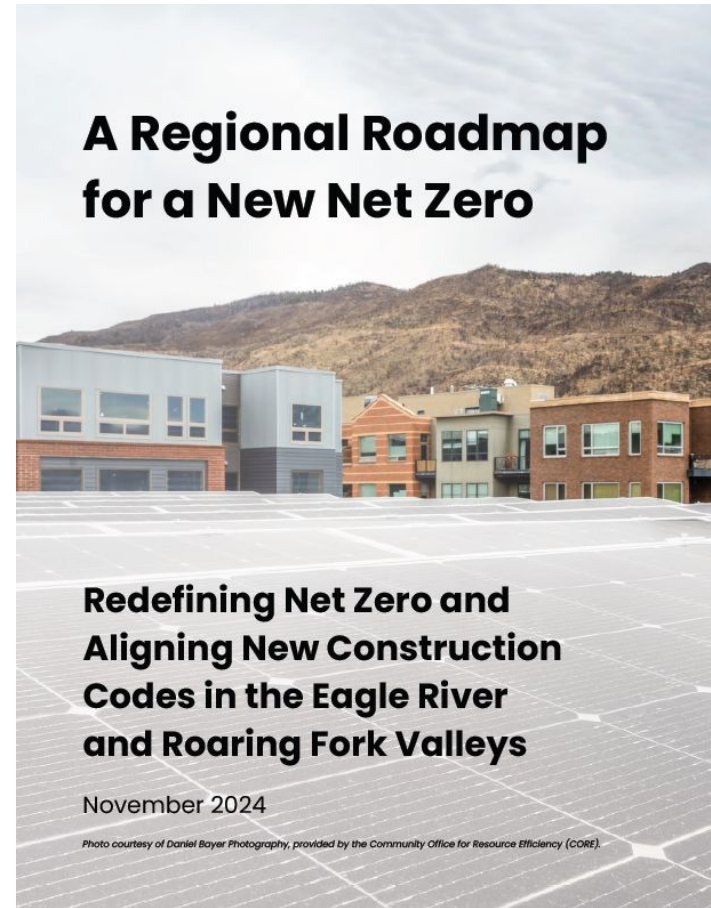
Roadmapping Process

April – July 2024



Roadmap Adoptions

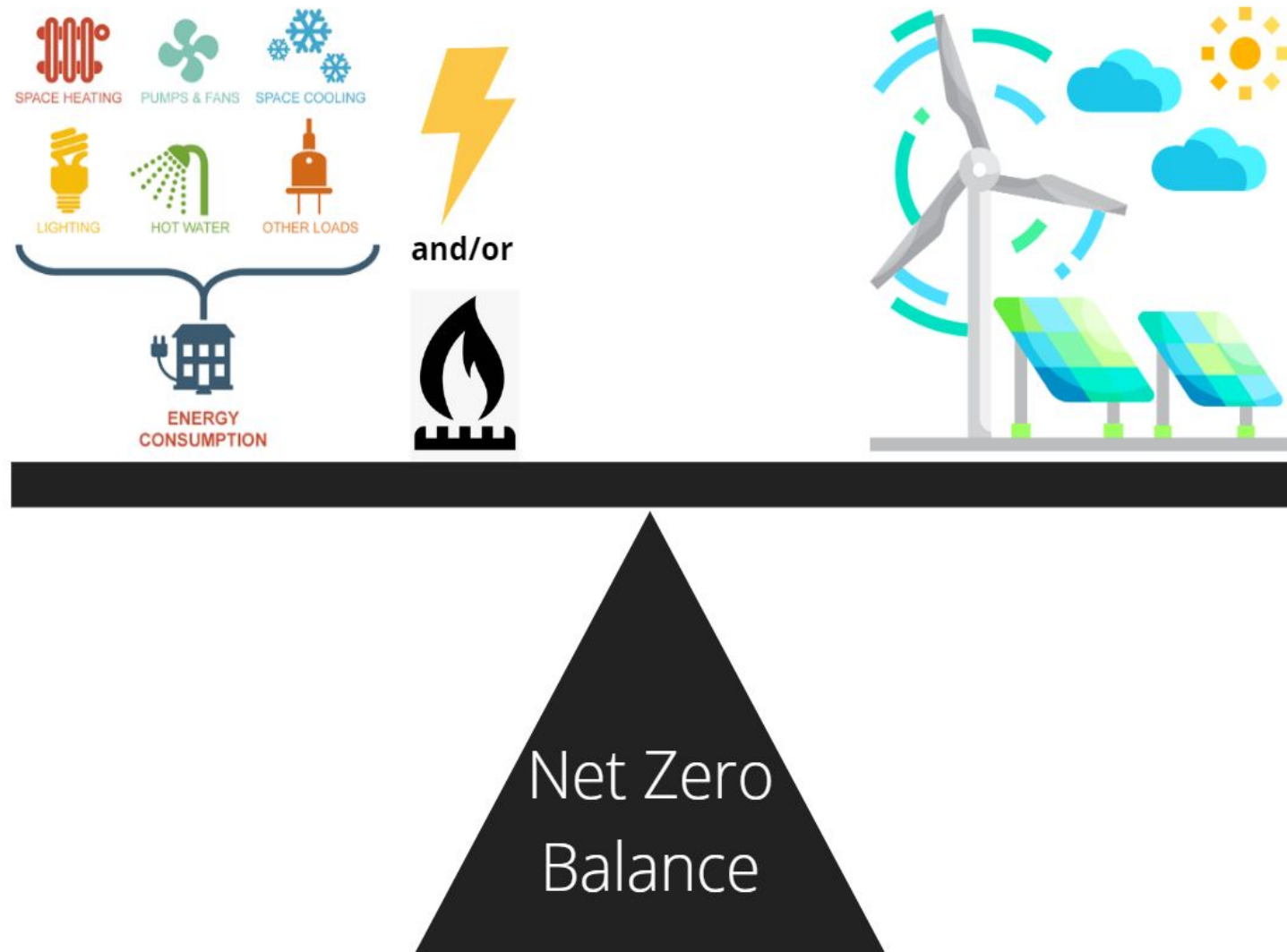
- **Town of Minturn**
- **Town of Basalt**
- **Town of Red Cliff**
- **Town of Avon**
- **Eagle County***
- **Pitkin County***



The New Net Zero



Traditional Net Zero



Electric Utility Commitments & Requirements

Glenwood Springs Electric

- 100% renewable energy (RE) already

Aspen Electric

- 100% renewable energy (RE) already

Holy Cross Energy

- 100% RE by 2030
- This goal is a commitment

Xcel Energy

- 80% RE by 2030
- This goal is required by state law



Final Net Zero Building Definition

Describing the ideal end state of buildings in 2030 and beyond.

A building that:

- Is **powered by electricity**;
- Uses **renewable energy** from the grid and/or onsite generation;
- Has the **ability to store energy** and/or **shift energy use** to reduce peak demand on the electric grid;
- Achieves **energy performance above base** the International Energy Conservation Code.
- Is designed to **minimize embodied carbon**; and
- Is **EV-ready**.



Starting now is key.



Town of Eagle Climate Goals

- Eagle is **committed to achieving** net zero carbon emissions for town operations by 2028, and for the broader community by 2030 – making your goals the most ambitious to achieve
- Residential new construction electrification by 2030 is a **priority strategy** in the Town's Net Zero Action Plan

2030 Target All-electric residential new construction code requirement			2030 GHG Reduction 956 MTCO2e	
Feasibility of Actions				
GHG Reduction	Technical Feasibility	Implementation Ease	Implementation Cost	Mainstreaming Potential
	  	  		  



The Regional Vision



We asked the workforce...

- **What do they think of the Roadmap?**
- **What was their opinion on the need for regionally aligned codes?**
- **Are they ready for these requirements?**
- **What barriers do you face?**

- Crestone Building
- Shaeffer Hyde
- Western Refrigeration & Heating
- Beck Builds
- Radar Engineering
- Vail Custom Builders
- R&H Mechanical
- Sipes Architects
- North 39 Energy
- CCYA Architects
- issho Inc.
- KH Webb Architects
- Vail Health
- Mountain Air Mechanical
- VVP
- Eigelberger Architecture
- Rader Engineering
- Weddle and Sons Roofing
- Teague Architects
- Sunsense Solar
- BG Architecture & Design
- Land + Shelter Architecture
- & more.



From the Listen and Learns:

Set the code and we will build to it – it's not the workforce's job to sell electrification and its benefits.

"Until codes are put into place, hard to get traction on this."

Regionally aligned codes support code compliance because there is one set of codes to learn and understand.

"UNIFICATION of codes would be awesome."

"Professionals are frustrated that codes are different in the several jurisdictions in our region."

There is demand for heat pumps and electrification.

Wages & Housing are an issue for maintaining a skilled workforce to execute these goals. Cost is still a barrier.



Why does it matter if the workforce understands the codes?

Improving building code compliance can save on energy costs and make buildings more affordable to operate, benefiting our community and environment.

Estimated Energy Lost from Noncompliance (GuideHouse Study)

- **Up to \$2,300 per building/yr in lost energy costs** from non-compliant code buildings, especially in heating and cooling followed by insulation.



[DOE Code Compliance Lost Savings](#)



The Path to 2030



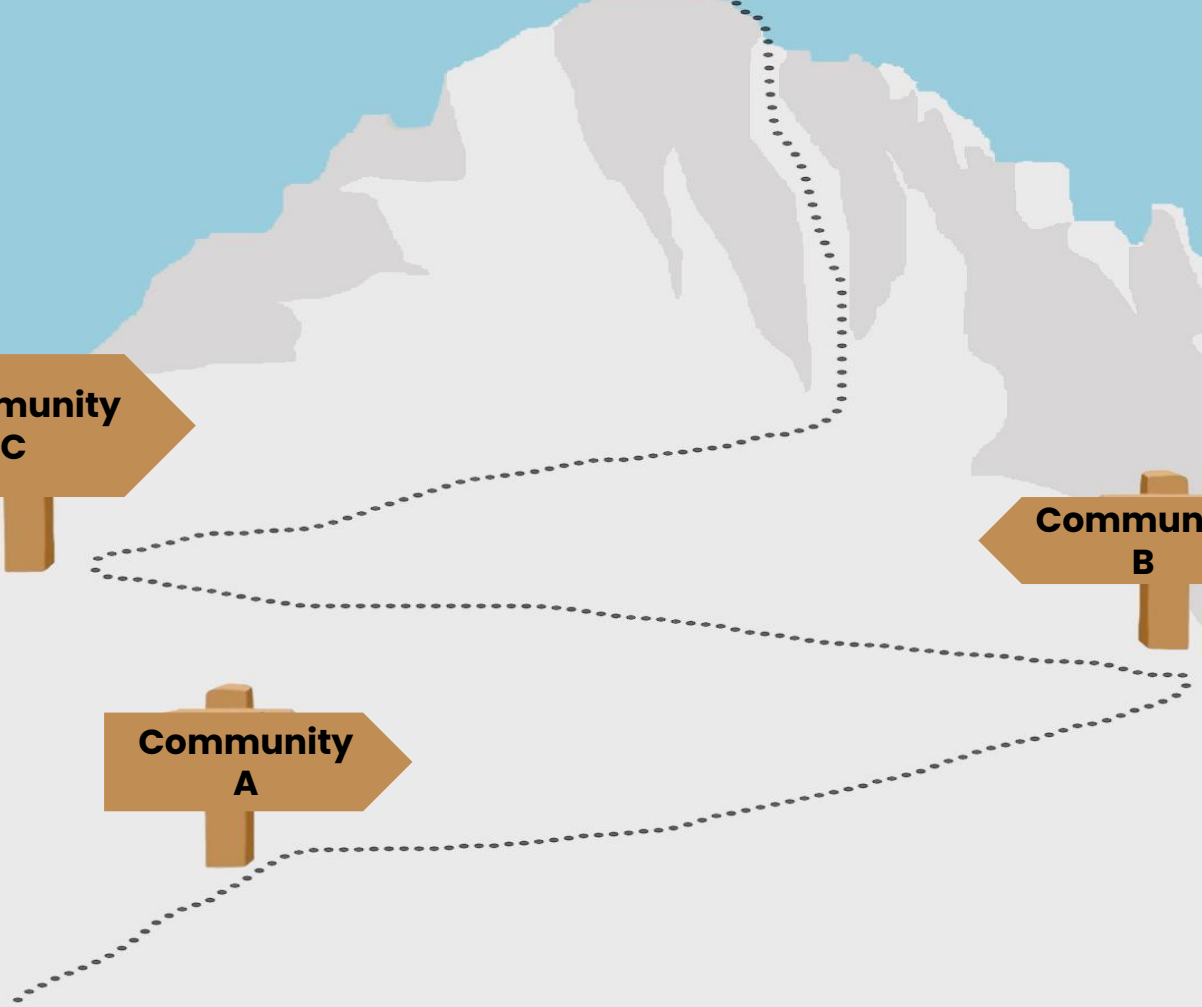
The Roadmap

Step A: 2024–2026	Step B: 2027–2029*	Step C: 2030 & beyond*
• 2021 or 2024 IECC	• 2024 or 2027 IECC	• 2027 or 2030 IECC
• Electric-Preferred	• All-Electric w/ exceptions	• All-Electric limited exceptions
• Addt efficiency for very large homes	• Addt efficiency for very large homes	• Addt efficiency for very large homes
• EEOP or REMP in place	• EEOP or REMP in place	• EEOP or REMP in place
*Provisions will be reevaluated to ensure alignment with technology, utilities, and best practices.	• If solar is added, storage is required	• If solar is added, storage is required
	• Demand response for water heating (state law)	• Demand response for water heating (state law), thermostat capability





Net Zero

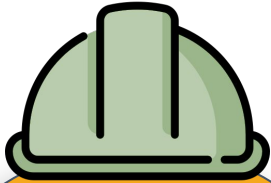


The Roadmap

Step A: 2024–2026	Step B: 2027–2029*	Step C: 2030 & beyond*
• 2021 or 2024 IECC	• 2024 or 2027 IECC	• 2027 or 2030 IECC
• Electric-Preferred	• All-Electric w/ exceptions	• All-Electric limited exceptions
• Addt efficiency for very large homes	• Addt efficiency for very large homes	• Addt efficiency for very large homes
• EEOP or REMP in place	• EEOP or REMP in place	• EEOP or REMP in place
*Provisions will be reevaluated to ensure alignment with technology, utilities, and best practices.	• If solar is added, storage is required	• If solar is added, storage is required
	• Demand response for water heating (state law)	• Demand response for water heating (state law), thermostat capability



Net Zero Roadmap Benefits



Stronger
codes =

**a skilled
workforce,
better-built
homes.**

All-electric
homes =

**healthier,
more
affordable
living**

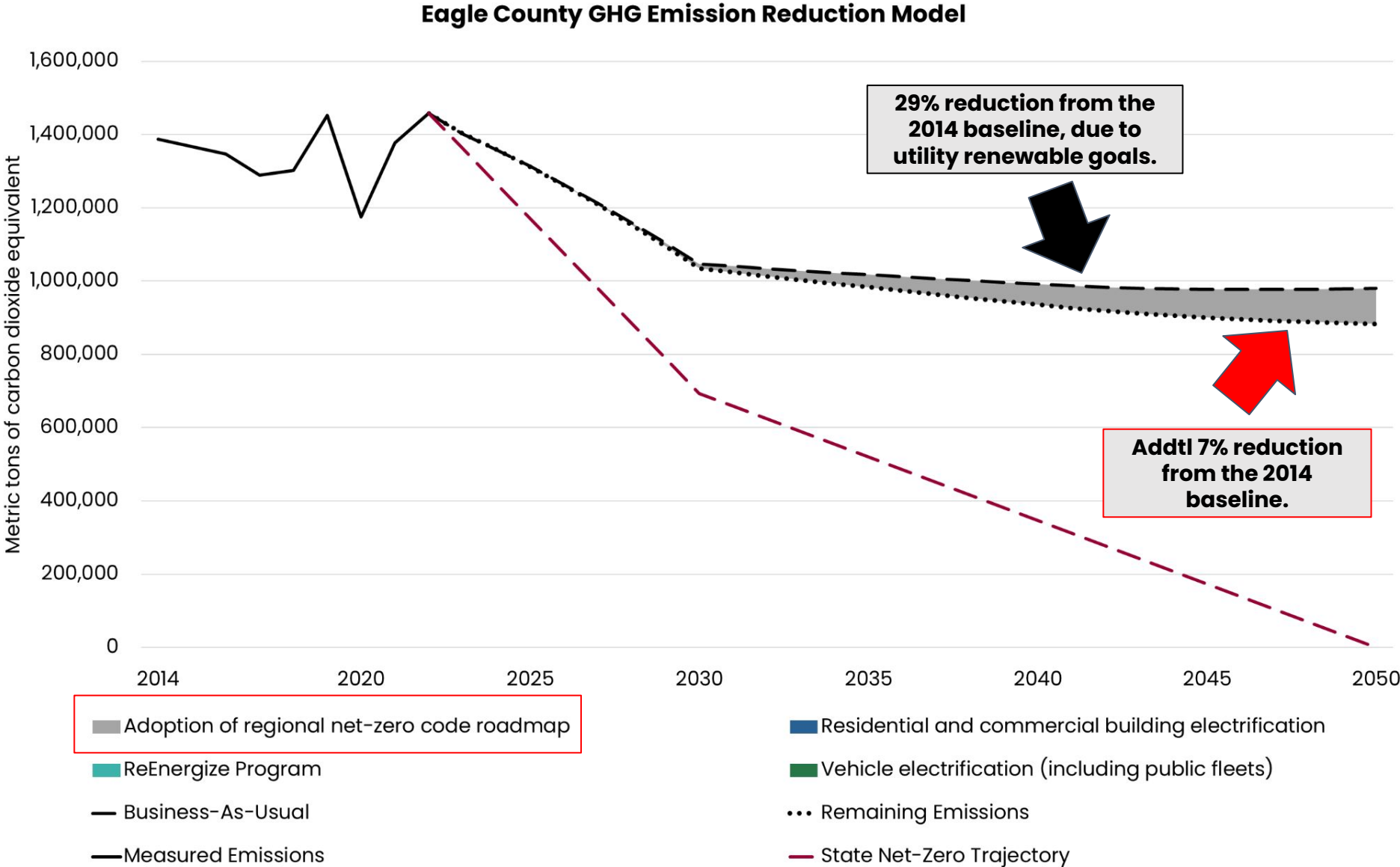


Build right the
first time =

**no costly fixes
later; staff and
community
can prepare
for future
codes**



Benefits: GHG Reductions



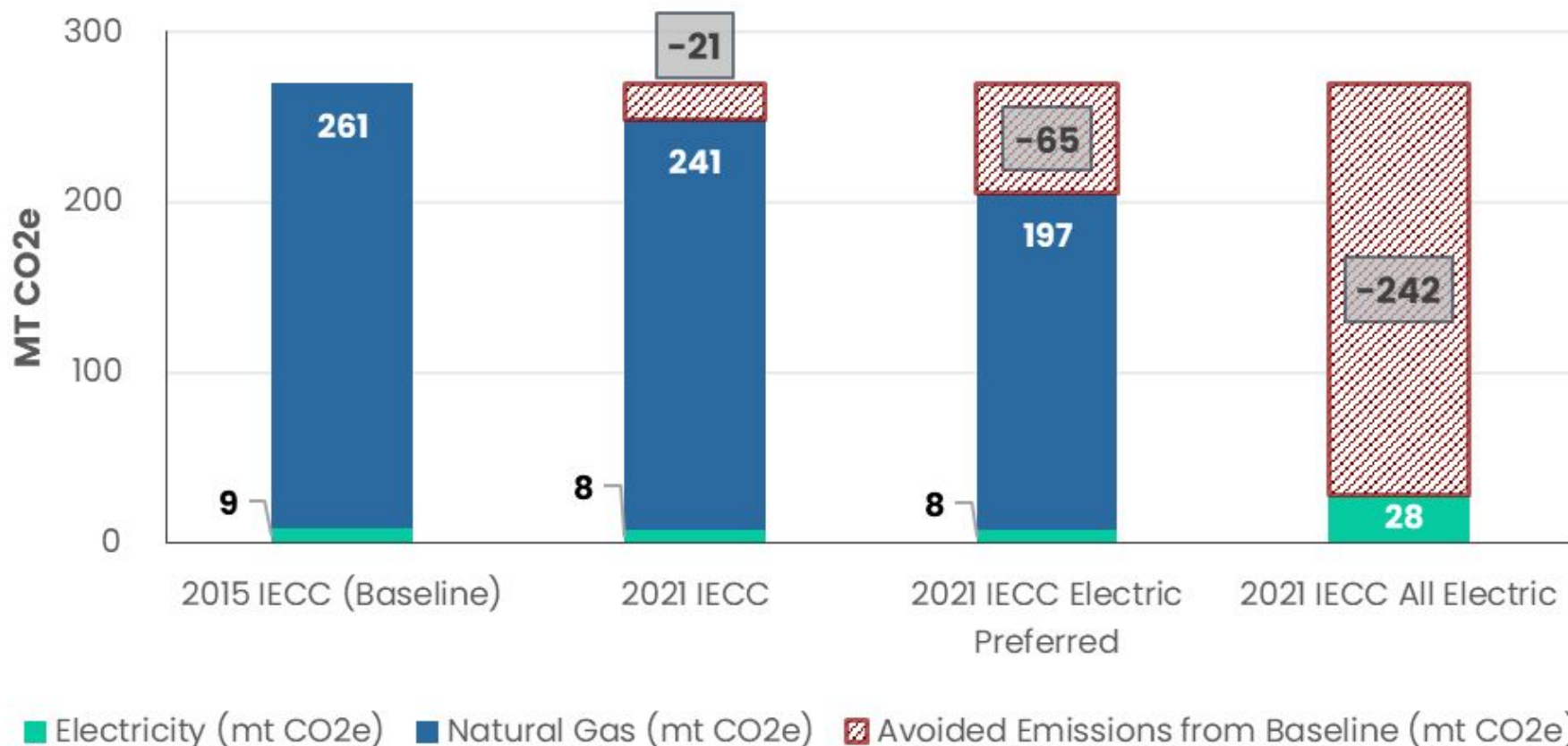
Eagle County Modeling Study

For all building types:

- **All-electric buildings** reduced CO2 emissions by 88–90%.
- Annual energy use of **all-electric buildings** is reduced by almost half that of a mixed-fuel building.
- **All-electric buildings** have the lowest operating costs (except single-family electric preferred)



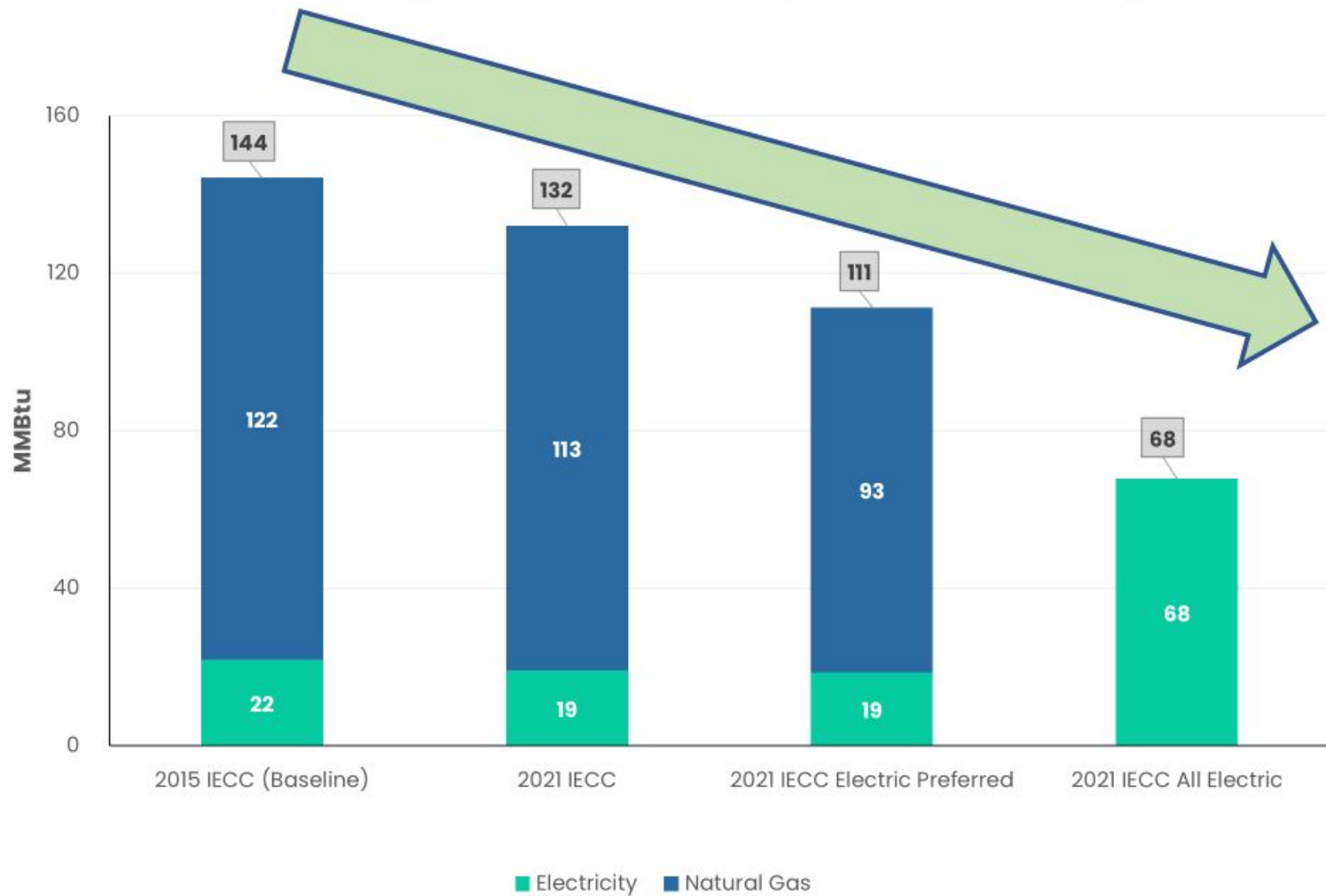
Single-Family Home: GHG Emissions - 2015 IECC vs. 2021 IECC All-Electric



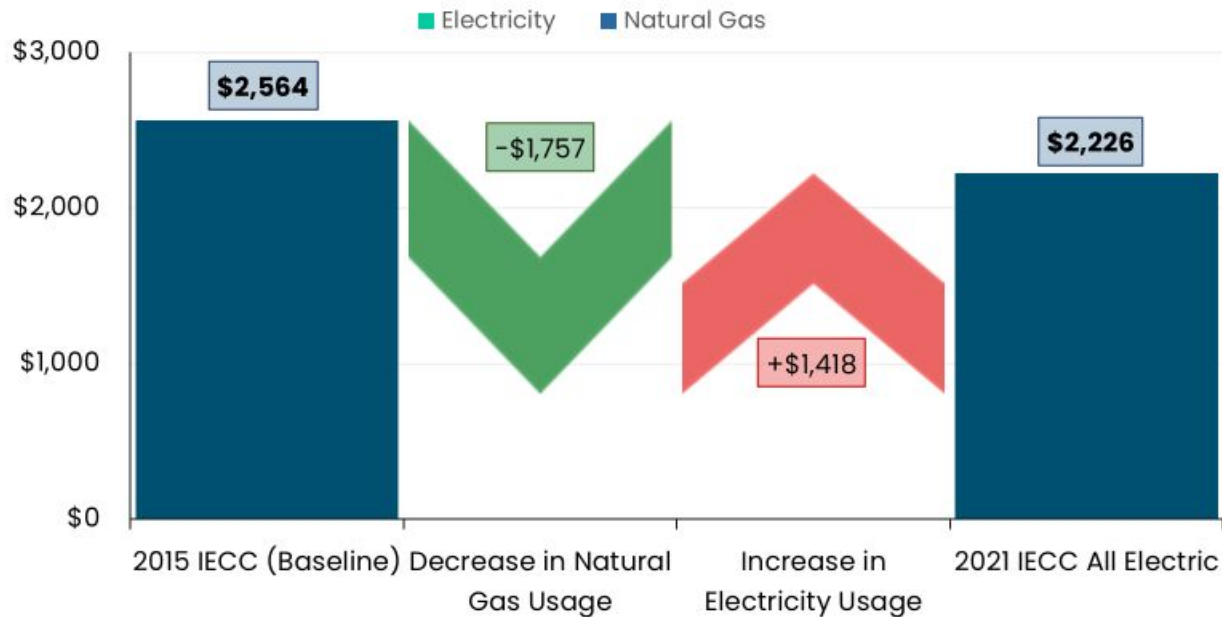
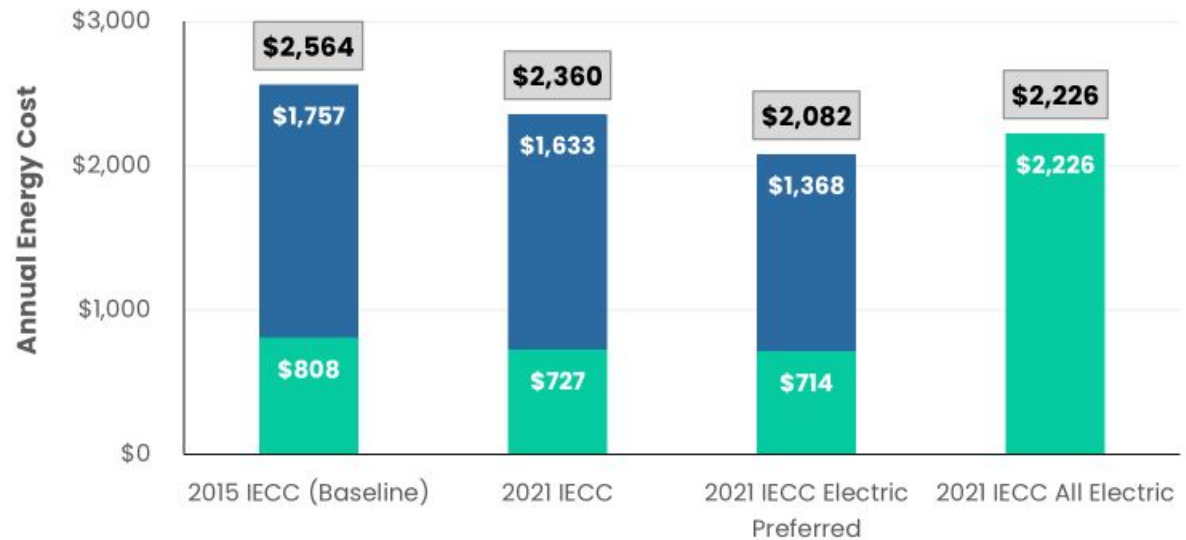
[Eagle County Energy Code Modeling Report, Nov 2022](#)



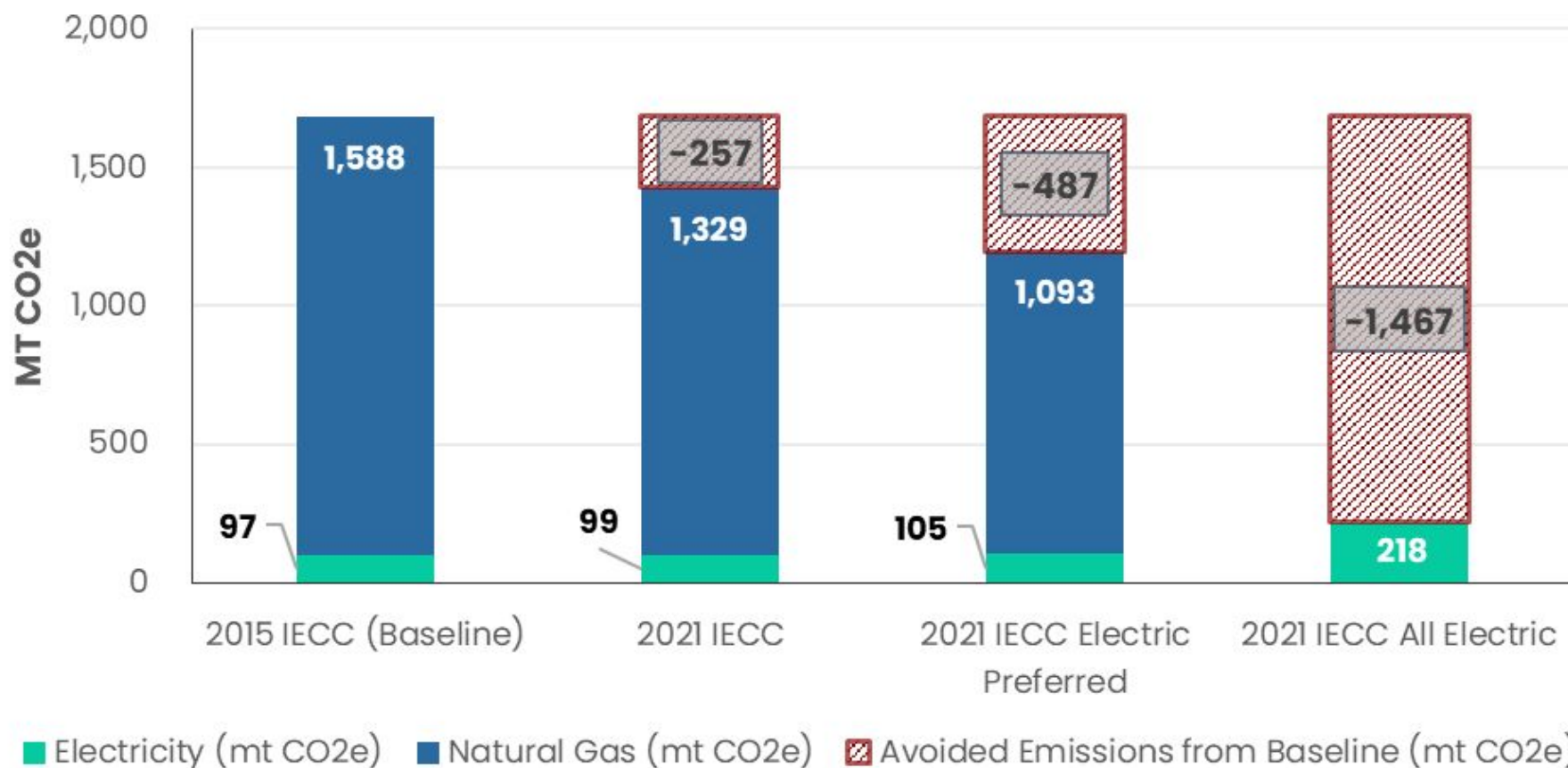
Annual Energy Use: Single Family Home



Cost Savings: Single Family Home



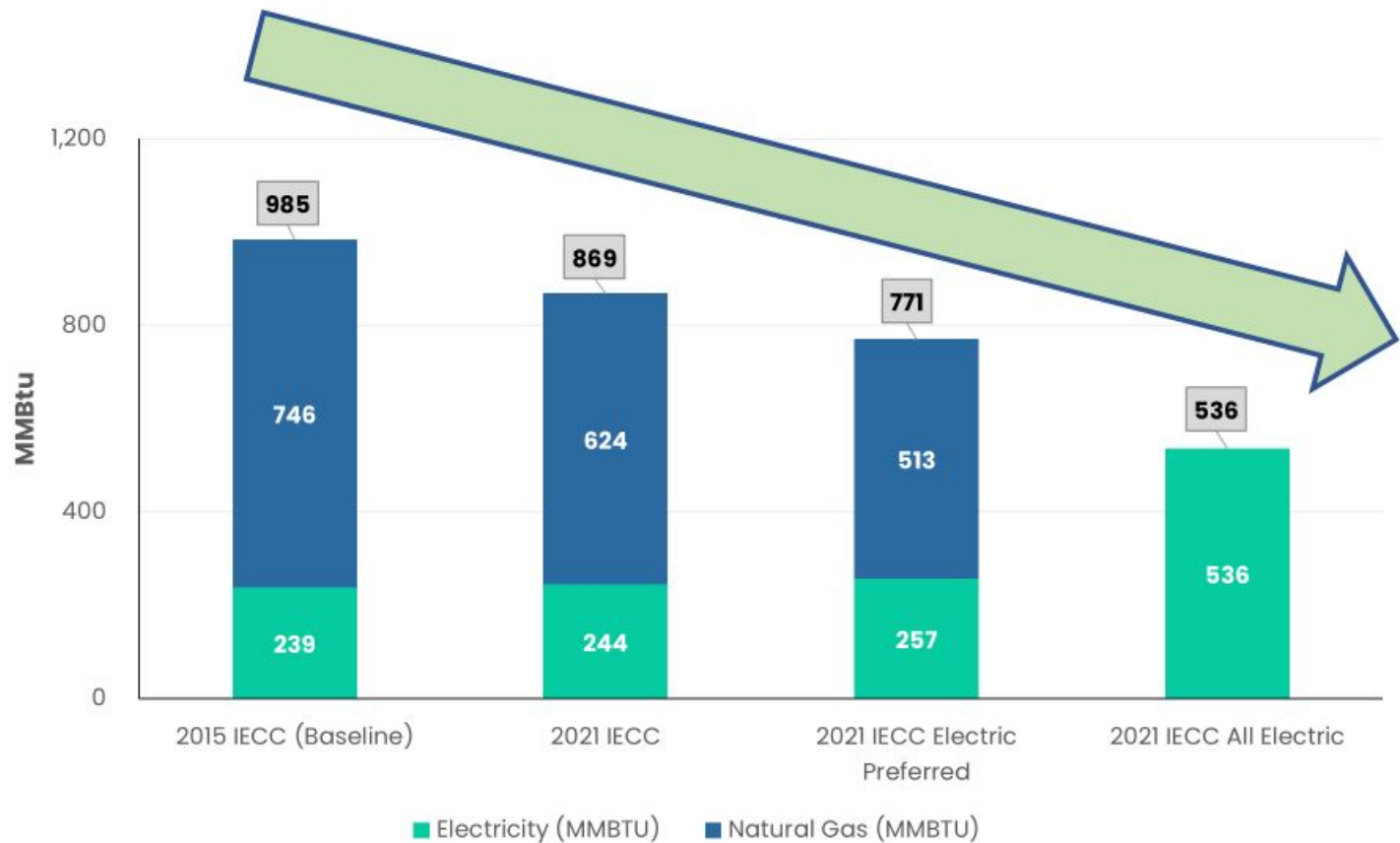
Multifamily: GHG Emissions – 2015 IECC vs. 2021 IECC All-Electric



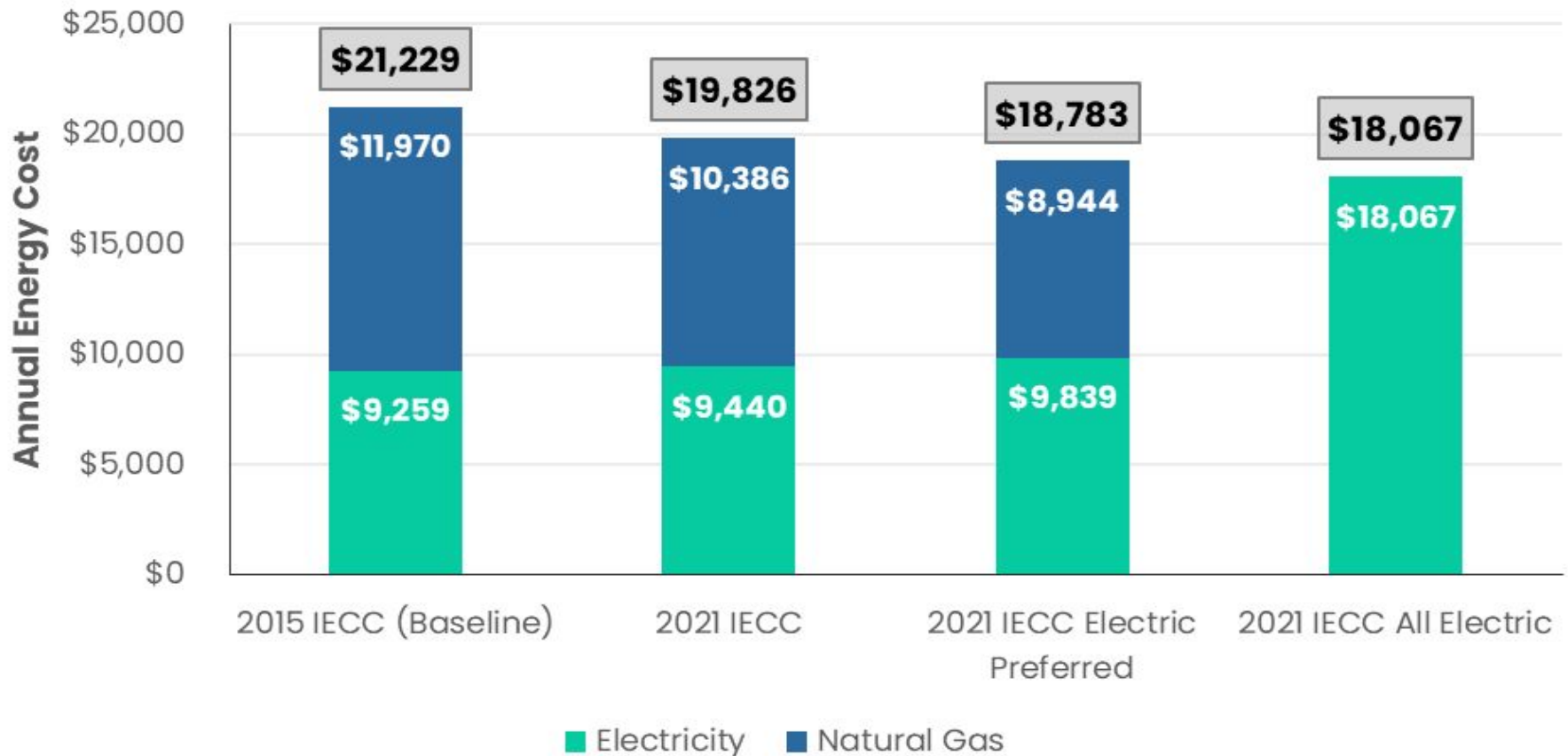
[Eagle County Energy Code Modeling Report, Nov 2022](#)



Annual Energy Use: Multifamily



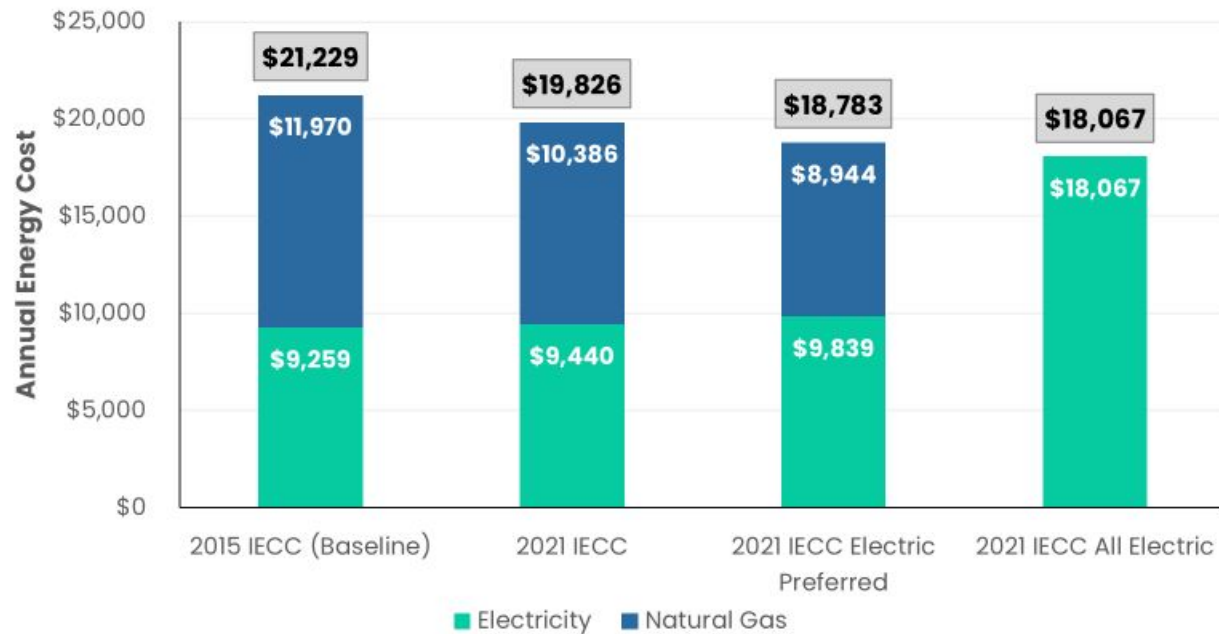
Multifamily: Energy Cost Savings – 2015 IECC vs. 2021 IECC All-Electric



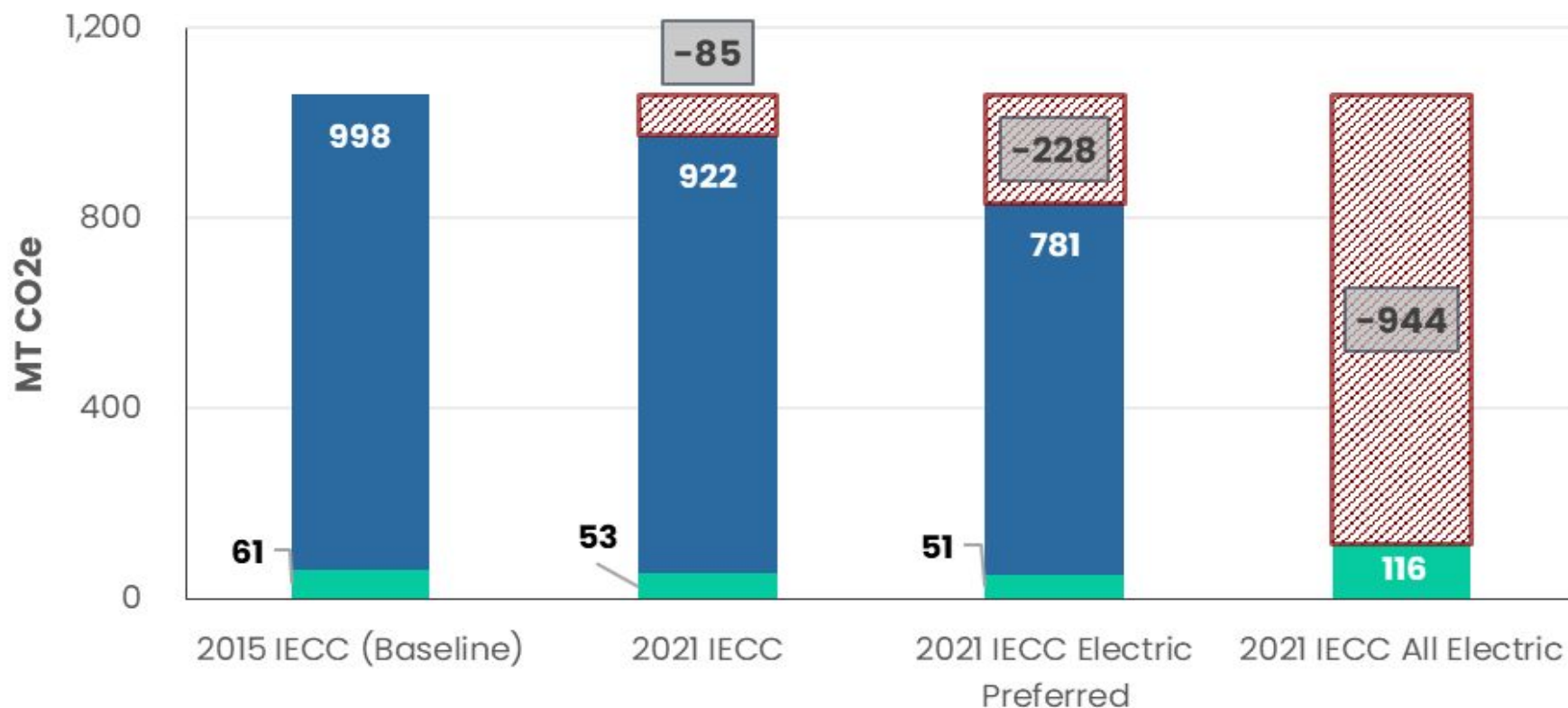
[Eagle County Energy Code Modeling Report, Nov 2022](#)



Cost Savings: Multifamily



Commercial: GHG Emissions - 2015 IECC vs. 2021 IECC All-Electric

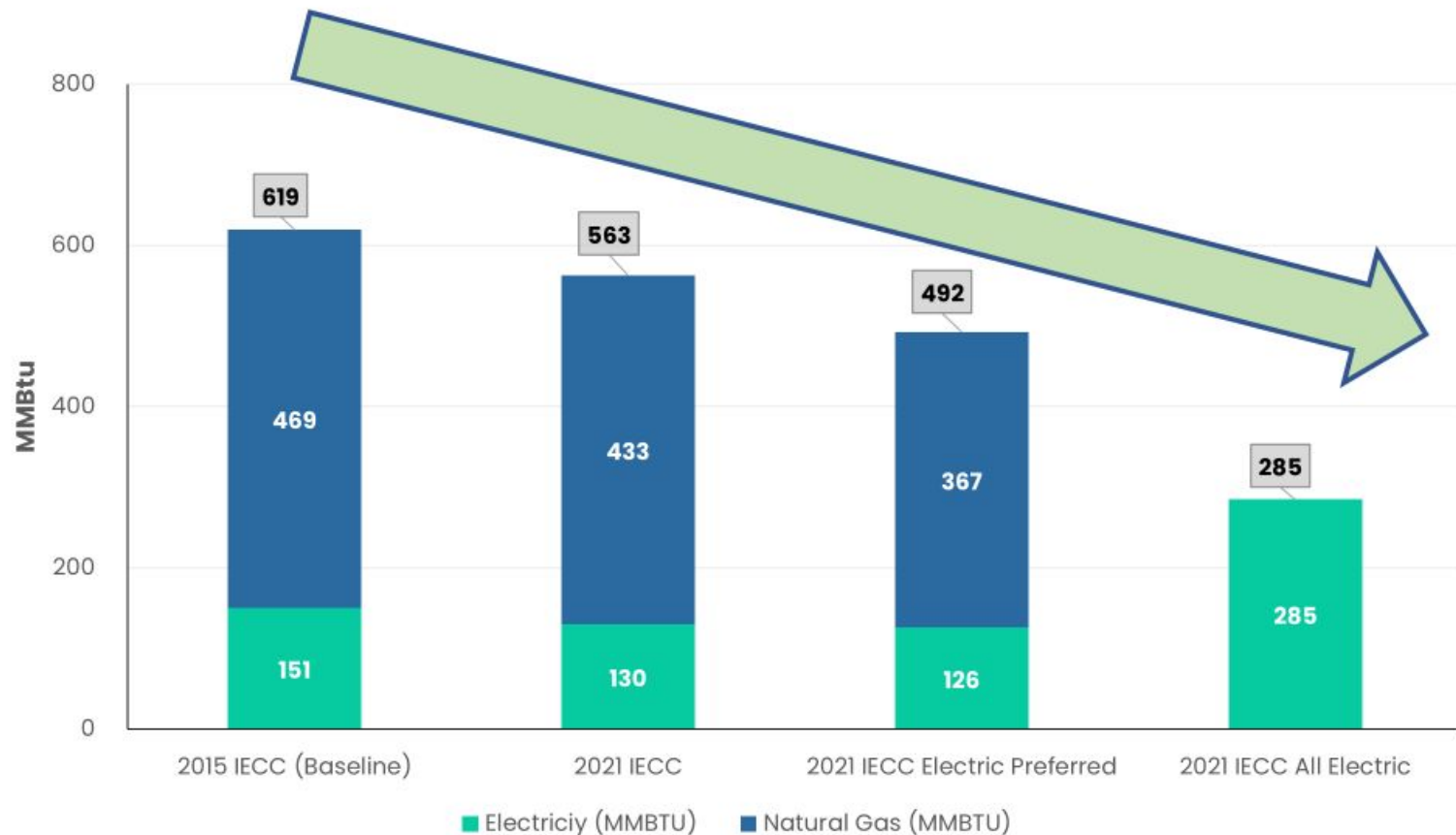


■ Avoided Emissions from Baseline (mt CO₂e) ■ Natural Gas (mt CO₂e) ■ Electricity (mt CO₂e)

[Eagle County Energy Code Modeling Report, Nov 2022](#)



Annual Energy Use: Commercial



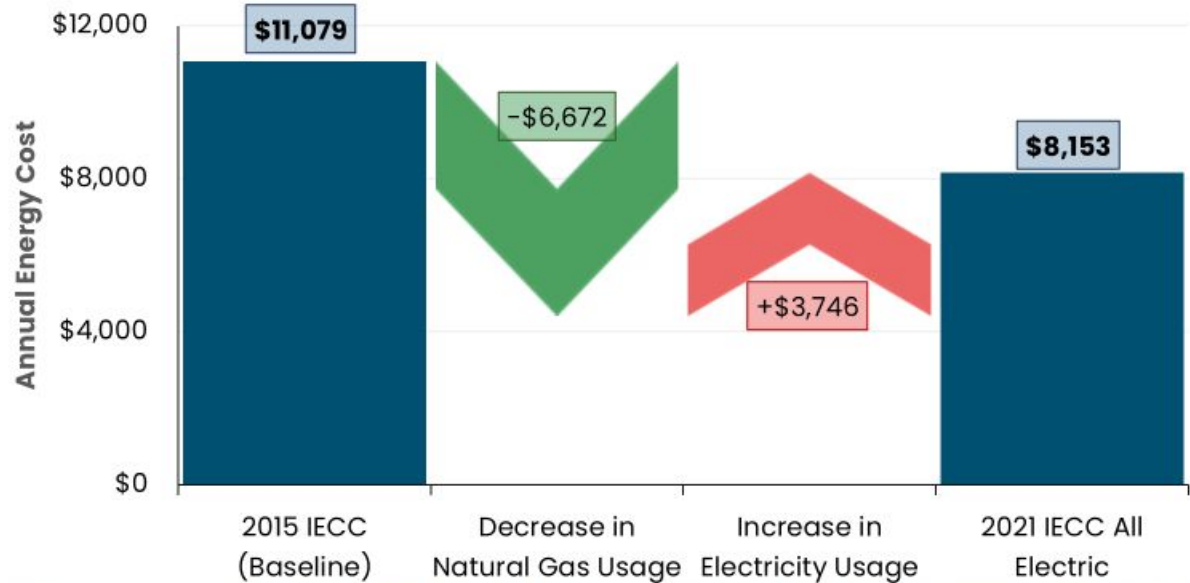
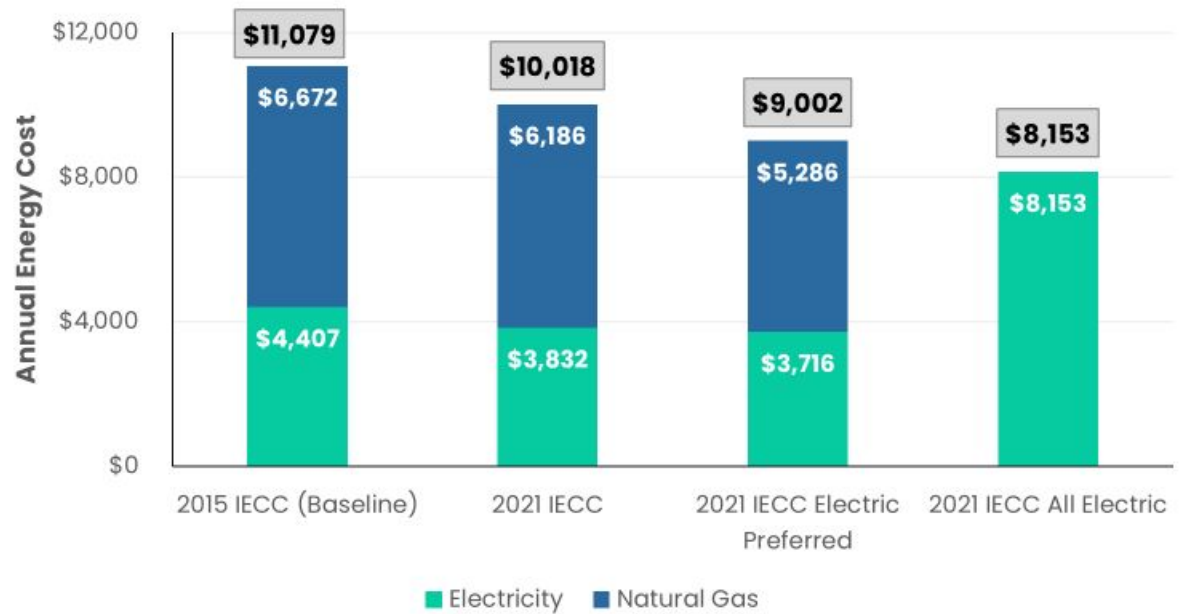
Commercial: Energy Cost Savings - 2015 IECC vs. 2021 IECC All-Electric



[Eagle County Energy Code Modeling Report, Nov 2022](#)



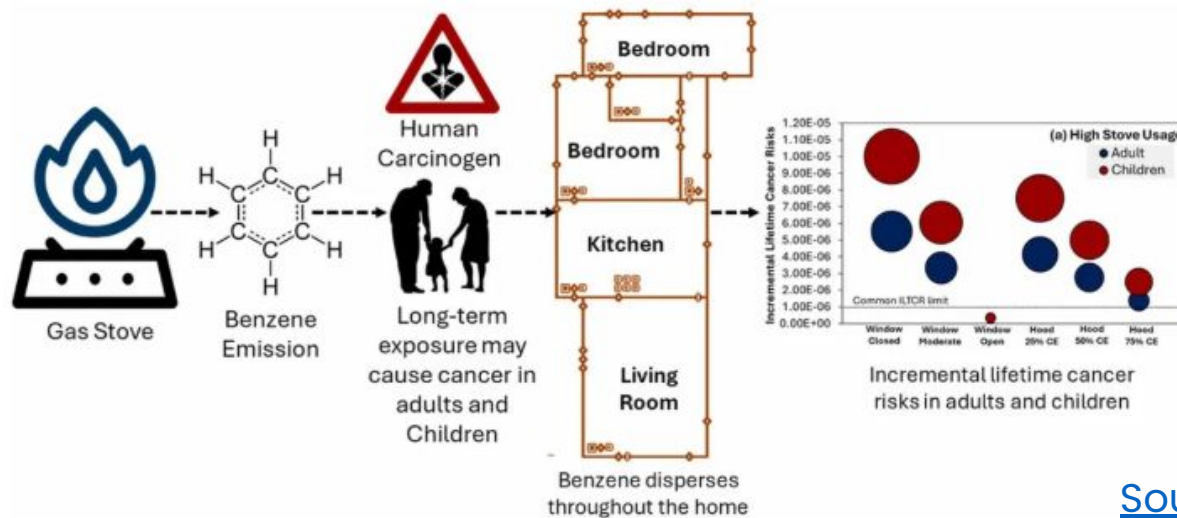
Cost Savings: Commercial



Public Health Implications

A recent study by Stanford, University of California, Berkeley, and more found that **gas stoves increase the chances of getting cancer**, with nearly **double the risk for kids than for adults**

- Yes, even when the gas stoves weren't in use
- Ventilation (hood or windows) does not completely eradicate the presence of benzene – replacement of the gas stove is the only way to do so



[Source](#) & [Source](#)



Partnerships and Collaboration



Community Coordinating Entities

- **CLEER**
 - Garfield Clean Energy, Garfield County
- **CORE**
 - Pitkin County (Upper Roaring Fork Valley)
- **Walking Mountains**
 - Eagle River Valley (Eagle County)



Value in Regional Partnerships



Net Zero Buildings in our Region



Chris Lammers Single Family Home



- Wolcott, CO, elevation 7,800
- Completed in 2019; 3,400 sqft
- All electric heating and cooling
- +/- \$1,500 a year to heat, power and cool per year after \$1,200 in solar production.



Net Zero in Eagle County

Avon Educator Housing

- 2020 & 2024
- **Net zero**
- **All-electric**
- **Solar**
- **Battery storage on newest building**
- Energy efficient building envelope.



Haymeadow Phase 1

- 76 workforce housing units
- **All-electric**
- **High efficiency**
- **EV installed & EV Ready**
- **Solar** to offset "common space" electrical demand



Net Zero in Eagle County

Adams Way

- 16 workforce housing units
- **All-electric**
- High efficiency
- **Net zero ready**
- **Solar ready**



Edwards Commons

- 20 workforce housing units
- **All-electric**
- High efficiency
- **Solar ready**
- **EV installed & EV Ready**



The Path Ahead



State Energy Codes

Eagle is **currently in compliance** with the State's minimum energy code, which requires:

- 2021 IECC
- Electric ready
- Solar ready
- EV ready

After June 30, 2026, jurisdictions who update their code, **must adopt** the **Model Low Energy and Carbon Code**.

The current draft includes requirements that are aligned with the **Regional Roadmap**:

- Demand response
- Electric-preferred standards
- Large home requirements
- Above IECC energy efficiency
- EV-readiness
- Solar-readiness



Future Regional Collaboration & Roadmap Implementation

- **CEO Energy Code Adoption and Enforcement Grant – awarded & kick off June 1**
 - \$145,000 awarded from CEO.
 - Funds will support:
 - Localized cost analyses and case studies
 - Building department and workforce trainings
 - EEOP training and resources
 - Implementation of the Roadmap and compliance with State Codes (for next code adoption cycle)



Town of Eagle Achievements

- Code alignment with Eagle County, Minturn, and Avon
- Adoption of advanced energy codes that currently exceed the state minimum
- Adoption of the most ambitious climate goals in the region



Call to Action

Timeline:

- **Nov 2024 through June 2025** – Region-wide adoption of a resolution or ordinance committing to roadmap goals.

Dedicated Commitment From Leadership:

- Resolution to execute the Roadmap, achieve net zero (as defined by the Roadmap) for new buildings by 2030, and support staff and community.
- Commitment to continue **collaboration** efforts into the future.



Questions?





Thank You

Kim Schlaepfer

kim@lotussustainability.com

Gina McCrackin

ginam@walkingmountains.org

TOWN OF EAGLE, COLORADO
RESOLUTION NO. 41
(Series of 2025)

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF EAGLE, COLORADO,
ADOPTING THE REGIONAL NET ZERO ROADMAP AND COMMITTING TO
COLLABORATIVE ACTION TO ACHIEVE NET ZERO BY 2030

WHEREAS, The Town Council adopted Resolution No. 56 in 2021, setting a goal to achieve net zero carbon emissions by 2030 for the Eagle community;

WHEREAS, the Town of Eagle is committed to addressing the urgent challenges of climate change by adopting strategies that reduce carbon emissions, promote sustainability, and enhance the resilience of our community, and is committed to achieving a net-zero future for the benefit of both current and future generations;

WHEREAS, the Town of Eagle has committed to reducing internal town operations GHG emissions 100% by 2028 and community-wide GHG emissions 100% by 2030, and recognizes that achieving this goal requires decarbonization of all new and existing buildings within Eagle;

WHEREAS, the Town Council of Eagle believes that achieving net-zero operational emissions for all new construction by 2030 is not only possible but essential to mitigate climate change and create long-term benefits for our community, including public health, economic opportunities, equity, innovation, and long-term environmental stewardship;

WHEREAS, the Town of Eagle has been an active participant in designing and shaping the Regional Net Zero Roadmap to achieve net zero operational emissions for new construction by 2030, ensuring that the Roadmap reflects not only the needs and priorities of our town, but also the entire region;

WHEREAS, the Town of Eagle acknowledges the importance of regional collaboration and alignment in achieving the goals of the Regional Net Zero Roadmap, and recognizes that by working together with neighboring jurisdictions and regional partners, we can maximize the impact of our collective efforts, share resources and knowledge, and ensure equitable solutions for all communities;

WHEREAS, the Town of Eagle commits to working closely with regional partners in upcoming building code adoption cycles to implement regionally-aligned updates to building codes that support the transition to net-zero operational emissions for new construction; and

WHEREAS, the Town of Eagle is committed to ensuring that all members of our community, particularly those most vulnerable to climate impacts, benefit from the transition to a net zero built environment;

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF EAGLE, COLORADO AS FOLLOWS:

Section 1. The Regional Net Zero Roadmap is hereby adopted by the Town Council of the Town of Eagle, Colorado, with the goal of achieving net zero operational emissions for new construction by 2030, as a key component of our town's climate action strategy.

INTRODUCED, READ, PASSED AND ADOPTED ON _____ 2025.

TOWN OF EAGLE, COLORADO

Scott Turnipseed, Mayor

ATTEST:

Camille Deering, Town Clerk



To: Mayor Turnipseed and Town Council

From: Community Development Department

Date: June 3, 2025

Agenda Item: Discussion on Future Text Amendment to the Land Use and Development Code
Establishing Density Limits in Mixed Use and Commercial Zone Districts.

REQUEST:

Staff seek Town Council direction on a potential update to the Land Use and Development Code to clarify residential density limits in mixed-use and commercial zone districts.

INTRODUCTION:

During the recent legislative session, House Bill 25-1092 ([LINK](#)) was approved, prohibiting local governments from limiting growth through density caps and similar land use policies. In response, staff have reviewed zone districts where density limits are unclear or absent, specifically Commercial Mixed Use 1, Broadway, Commercial General, Commercial General East, Industrial, and Commercial Interchange.

Without clear standards, the Town may face challenges enforcing density limitations adopted after July 1, 2025. Additionally, the bill requires that any reduction in density be offset by an increase elsewhere in Town. Establishing clear base density standards now will help preserve the Town's ability to implement the Comprehensive Plan's vision. Nothing in the bill prevents the Town from increasing density in the future.

The purpose of this potential code amendment is twofold: to support the community with standards that better implement the Town's vision for growth, but also to support developers with clear expectations to streamline and improve the development review process.

Tonight's work session is an opportunity for the Town Council and Planning Commission to provide feedback on policy solutions that clarify density standards in the Town's mixed-use and commercial zone districts. With this input, staff will prepare an ordinance for Planning Commission recommendation on June 17 and Town Council consideration on June 24.

ANALYSIS:

The following analysis provides an overview of the zone districts considered for a density limit; a list of policy solutions that could be employed; and the relevant Comprehensive Plan direction with staff's recommended solution for each zone district.

The zone districts in Town that lack clear density limits are provided in the following table, which includes the intent for each zone district, along with the allowed residential uses.

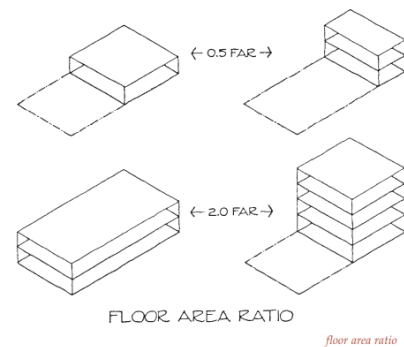
Zone District	Intent (zone district description in LUDC)	Allowed Residential Uses
Commercial Mixed-Use (CMU1)	To accommodate residential uses with limited low-impact commercial uses located along walkable neighborhood corridors where shops and services are accessible to pedestrians. CMU1 nonresidential development includes limited commercial uses focused on meeting the daily needs of primarily adjacent neighborhood residents, such as corner stores, personal services, and small restaurants.	• Cottage Court (A) • Duplex (P) • Manufactured Tiny (P) • Mixed-Use Structure (A) • Multi-Unit (8 max and 8+) (P) • Single-Family (P) • ADU (P)
Broadway District (BD)	To guide growth and development in a manner that continues the existing character and design of the highly walkable downtown commercial area with storefronts on the ground story and upper story residential, lodging, and office uses.	• Mixed-Use (M)
Commercial General (CG)	Primarily for automobile-oriented commercial uses, including heavy commercial, wholesale, warehouse-distribution/flex space facilities, research facilities, artisan and light manufacturing, and contractor commercial uses, which may include outdoor storage. CG districts may be located adjacent to other commercial, mixed-use, and high-density neighborhood districts.	• Dormitory Living/Hostel (S) • Employee Dwelling Unit (M)
Commercial General East (CGE)	For heavy commercial, wholesale, warehouse-distribution/flex space facilities, research facilities, artisan and light manufacturing, and contractor commercial uses, including outdoor storage and truck traffic. The CGE district is intended to be located along corridors where proximity to residential and walkable mixed-use development is limited.	• Dormitory Living/Hostel (S) • Multi-Unit Dwelling (8 max and 8+) (C) • Employee Dwelling Unit (M)
Commercial Interchange (CI)	For travel-adjacent commercial and tourist uses, including lodging, dining, and retail, that connect to and support guest and tourism activities in the Town. CI districts shall be located at major interchanges that bring visitors into the Town. Commercial Interchange district standards are focused on creating an enjoyable and safe visitor experience through high-quality development and public realm improvements.	• Dormitory Living/Hostel (S) • Employee Dwelling Unit (M)
Light Industrial (IND)	To provide for a variety of light, clean manufacturing businesses, including artisan or "maker" spaces, assembly, research and development, and a range of light manufacturing that takes place entirely indoors. This district may include supporting office and commercial uses where appropriate. The IND district is intended to be located away from residential development but can be compatible with adjacent	• Employee Dwelling Unit (A)

	commercial zones. IND zoning should provide locations directly accessible to arterial and other transportation systems that can conveniently serve both Town and County business and industrial centers.	
Key: P = Permitted M = Minor Review (no notice) A = Administrative Review C = Conditional Use S = Special Use		

Communities can achieve their preferred density through a range of policy tools beyond numerical density caps. By codifying one or more of these solutions, the Land Use and Development Code (LUDC) can more effectively implement the vision of the Comprehensive Plan.

Staff's recommendations for each zone district are pulled from the solutions below, with consideration given to the unique development goals for each area of Town. This list is not exhaustive, and the staff welcomes additional ideas from the Town Council and Planning Commission during the work session.

- **Floor Area Ratio (FAR):** The ratio of gross floor area of all structures on a lot divided by the lot area (American Planning Association, 2024). The limits of FAR are that it doesn't replace bulk and placement.



- **Dimensional Standards:** Includes setbacks, lot coverage, building height, landscaping buffer, and lot area requirements. Each of these requirements specifies the physical form and intensity of the development.
- **Density caps:** Defined as a minimum dwelling units per acre. For reference, the 1976 code included density based on minimum square footage per dwelling unit.
- **Parking:** Parking standards can significantly influence site layout and limit residential density by reducing the buildable area of the lot. Aside from requiring a minimum parking count, zone districts in the Town code require parking be located to the rear of the lot, adhering to specific access standards.
- **Transitional provisions/Neighborhood Protections:** There are several ways to incorporate transitional provisions to minimize the impact of development on adjacent properties. One or more of the following protections could be incorporated:
 - Natural buffers –landscape buffers between development and adjacent properties.

- Step down height – reduction in height when adjacent to lower intensity properties.



- Increased setbacks – greater separation from adjacent properties.
- Variation in the side building wall - to reduce the visual impact of the structure.
- Dormers/sloping roof – add interest and soften visual impact.

American Planning Association. (2023). Practice Gentle Density.



- **Build-to-Zone:** Defined as an area in which the front or street side facade of a building shall be placed; it may or may not be located directly adjacent to a lot line. The zone dictates the minimum and maximum distance a structure may be placed from a lot line. This 'Build-to zone' dictates where a structure is located on the lot, impacting where other site elements (i.e., parking spaces, green space) can be located on the site. While this standard can support walkability and a consistent streetscape, it can also reduce design flexibility and limit a developer's ability to maximize residential density.
- **Open space requirement:** Currently, the LUDC requires a parkland dedication for new subdivisions of land not platted within the Town. Resubdivisions that increase density are exempt from this requirement. Expanding public open space requirements on a per-dwelling-unit basis could result in reduced density. Separately, the LUDC has a private outdoor space requirement for developments located more than 500 feet from an improved public park, plaza, or open space that is connected to the development with a continuous ADA compliant sidewalk.

- **Use Standards:** Utilizing standards specific to certain uses can serve as a tool to limit density. These standards include deed restrictions, limiting the number of units per lot, spacing requirements between uses, or the application of a conditional or special use review.

As the Town Council and Planning Commission consider incorporating density limits into the mixed-use and commercial/industrial zone districts, understanding density in some existing developments may prove helpful. It's also worth noting that the Comprehensive Plan has identified approximate densities for residential land use designations. As shown in the table below, the densities envisioned in the Comprehensive Plan have not always aligned with the densities of approved development. Talon Flats and Broadway Station were approved before the adoption of the Comprehensive Plan.

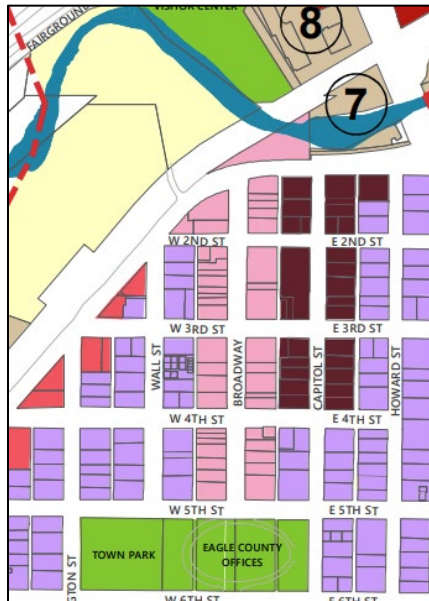
Development	Unit Count	Density	Property Size	Future Land Use Map Approx. Density
RHG Phase 1B + 2	183	27 DU/acre	6.93 acres	High Density Residential 10-18 DU/Acre
Broadway Station	22	117 DU/acre	0.187 acres	Downtown N/A
Talon Flats (Eagle Ranch)	20	62 DU/acre	0.324 acres	Mixed Use 4-10 DU/Acre
McDonald Street Townhomes (Eagle Ranch)	24	12 DU/acre	1.99 acres	Medium Density Residential 4-16 DU/Acre
435 Eby Creek	30	10.7 DU/acre	2.804 acres	Mixed Use 4-10 DU/Acre
410 Broadway	9	63 DU/acre	0.143 acres	Downtown N/A

**Broadway Station received a significant parking variance, and Talon Flats utilized parking from the shared lot, so parking was not incorporated into the site design.

In the following sections, the staff has compiled an analysis for Comprehensive Plan alignment and staff recommendations on density limits.

BROADWAY DISTRICT (BD)

The Broadway District is identified in pink on the Town Zone Map, spanning from 5th Street at the southern end of Broadway to the north, just above Grand Avenue.



The Broadway District's (BD) future land use designation is Downtown in the Comprehensive Plan. This designation does not provide an approximate density, nor is there a density limit spelled out in the Land Use Code. Instead, the appropriate amount of residential can be gained from the Goals and Policies listed in the Comprehensive Plan as outlined below:

GOAL 2-1. ENHANCE THE VIBRANCY AND VIABILITY OF DOWNTOWN.

The character of Downtown is defined by a small-town neighborhood feel and includes residential blocks as well as commercial and mixed-use. The development style establishes a unique and intimate relationship between buildings and the street. Historic resources are preserved, and new development is reflective of historic development patterns, character, and style.

- 2-1.1. New development, additions, and renovations should aim to mimic the scale, architectural style, and character of existing and surrounding historic buildings.
- 2-1.5. Encourage sensitive infill development to better support Broadway Street through increased building height, which complements and retains the character, scale, and massing of historic structures.
- 2-1.6. Residential areas are encouraged to retain mature trees, which provide ample shade, creating a sense of enclosure.
- 2-1.7. New development is encouraged to include landscaping consistent with the mature area including extended sidewalks, pedestrian amenities, and parking enhancements.
- 2-1.10. Encourage, where appropriate, increased density near the Downtown core.

The BD zone district already limits density through the following standards:

- Setback
- Building step back
- Build to Zone
- Height and coverage restrictions
- Landscape buffer
- Minimum lot area and width standards
- Max building footprint
- Required orientation of the front of the building toward public streets

Table 4.04-6: BD Lot and Dimensional Standards

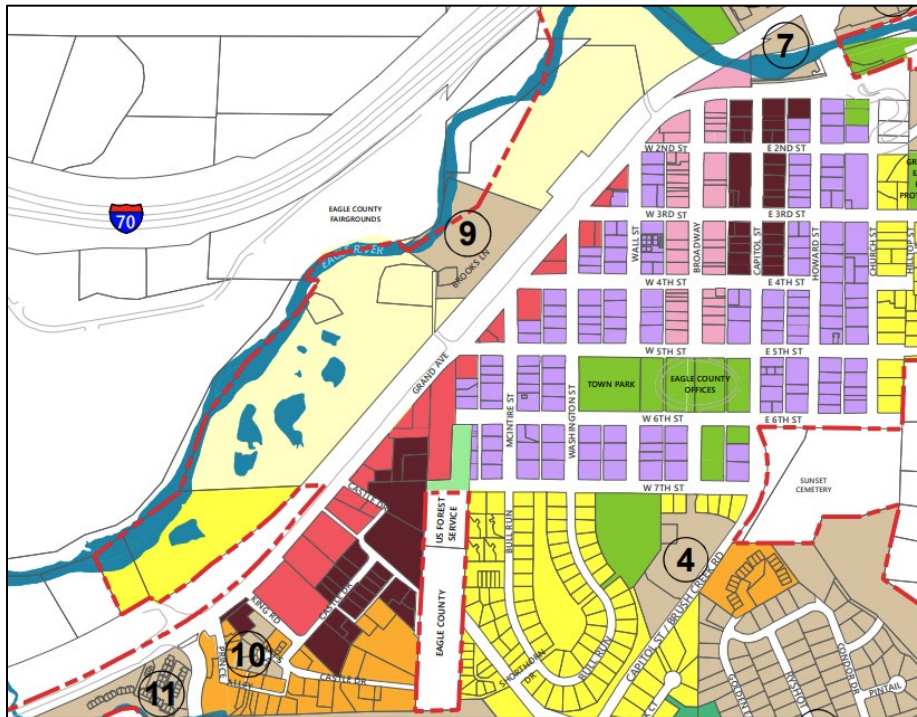
Dimensional Standards		Broadway
Lot Standards		
Lot area (sf, min)		3,125
Lot Coverage (% max)		100 [1]
Building Placement		
Build-to Zone		
A	Front Build-to Zone (feet)	0-15
	Front Build-to Line Coverage (min, %)	70 [2]
B 1	Street Side Build-to Zone (feet)	0-15
Setbacks		
B 2	Side Setback (feet)	0
C	Rear Setback (feet)	25 [3]
Building Standards		
	Building Height (feet, max) [4]	35
	Building Footprint (sf, max)	15,000
Parking Standards		
	Surface parking location	At least 30' behind front façade
Table Notes: Building coverage may exceed the 80 percent maximum lot coverage in the Broadway District (refer to Section 4.10.050C.1 for specific guidelines and standards). Up to 30% or 50' (whichever is less) of the front façade may be a courtyard. [3] Rear setback may be reduced when parking is provided pursuant to Section 4.10.050 C.1 [4] Corner treatments at street intersections may exceed the height limit when compliant with Section 4.10.050 C.1.		

Staff recommendation:

Staff does not recommend changes at this time, as the existing dimensional standards support the vision of the Comprehensive Plan. The dimensional standards, such as the maximum building footprint of 15,000 square feet, ensure new development blends with the existing character.

COMMERCIAL MIXED-USE (CMU1)

The CMU1 zone district can be found in two areas of Town. The first area is directly to the east of Broadway, and the second is adjacent to Commercial Mixed Use 2 (CMU2) zoning in the West Eagle neighborhood. The CMU1 is the dark maroon color in the image from the Zone Map below.



The future land use designations for CMU1 include Downtown Neighborhoods (DTN) in the Elevate Eagle Comprehensive Plan and the Mixed Use designation in the West Eagle Sub Area Plan (WESAP). The DTN land use envisions approximately 4-16 DU/Acre in the Comprehensive Plan (pg 41), while the WESAP does not specify a density per acre.

Aside from the density called out in the Comprehensive Plan, the policies within the document shed light on the vision for redevelopment surrounding Broadway with the following goals and policies:

GOAL 2-3. CELEBRATE THE TOWN'S UNIQUE SMALL-TOWN CHARACTER.

- 2-3.3. Ensure that new development builds upon and adds value to Eagle's unique community character by adhering to high-quality standards of design and construction.
 - a. Ensure residential infill and redevelopment blend appropriately with the character and scale of surrounding neighborhoods
- 2-5.3. Support vertical mixed use, horizontal mixed use, or a combination of mixed use patterns in appropriate areas (such as the Broadway Street extension into the River Corridor Sub Area). Minimize the extension of mixed-use areas away from the Town Center to promote Broadway Street as the heart of the community.

GOAL 2-1. ENHANCE THE VIBRANCY AND VIABILITY OF DOWNTOWN.

The character of Downtown is defined by a small-town neighborhood feel and includes residential blocks as well as commercial and mixed-use. The development style establishes a unique and intimate relationship between buildings and the street. Historic resources are preserved, and new development is reflective of historic development patterns, character, and style.

- 2-1.1. New development, additions, and renovations should aim to mimic the scale, architectural style, and character of existing and surrounding historic buildings.

- 2-1.5. Encourage sensitive infill development to better support Broadway Street through increased building height, which complements and retains the character, scale, and massing of historic structures.
- 2-1.10. Encourage, where appropriate, increased density near the Downtown core.

The CMU1 zone district already includes density limitations through specific dimensional standards such as setbacks, build-to-zone, height and coverage restrictions, landscaping requirements, minimum lot area requirements, and neighborhood protection standards.

Table 4.04-2: CMU1 Lot and Dimensional Standards					
			Live Stream Setback		
			No disturbance area	75 ft	
Mixed-Use Lot Standards			Building Standards		
Lot Area, total (min)		6,250 sf	D	Height (max)	35 ft [2]
Lot coverage (max)		70%			
Building Placement			Parking Standards		
Build-to/Setbacks			Location		Section 4.04.040 D
A	Front Build-to Zone	5-20 feet	Required parking		Section 4.12
Front Build-to Line Coverage		65% [1]			
B ₁	Street Side Build-to Zone	5-20 feet	Accessory Structure Setbacks		
B ₂	Interior Side Setback (min)	5 ft [2]	Side, Interior		2.5 ft
C	Rear Setback (min)	5 ft [2]	Rear		2 ft
Table Notes:					
[1] Percentage of the front building line that must be located within the build-to zone					
[2] Abutting R1 or N2, see Section 4.04.030 A.					

The neighborhood protection standards, as drafted, do not apply to new development in the CMU1, as they are only triggered when adjacent to a property zoned R1. However, there are no properties zoned R1 on the current Zone Map. The neighborhood protection standards read as follows:

New primary buildings with a height greater than 35 feet shall reduce the perceived height of the building when viewed from the adjacent R1 lots by using at least one of the following techniques.

- "Stepping down" building height of any portion of the building within 20 feet of the side and rear lot lines abutting a lot zoned in any R1 district to a maximum of 35 feet; or
- Increasing the side yard and rear yard setbacks abutting R1-zoned lots by at least ten feet beyond that otherwise required.

Staff recommendation:

With policies recommending increased density that fits within the existing neighborhood in terms of character and scale, staff recommends implementing a maximum building size, similar to the Broadway District, while retaining existing dimensional standards, such as building height, lot coverage, and setbacks.

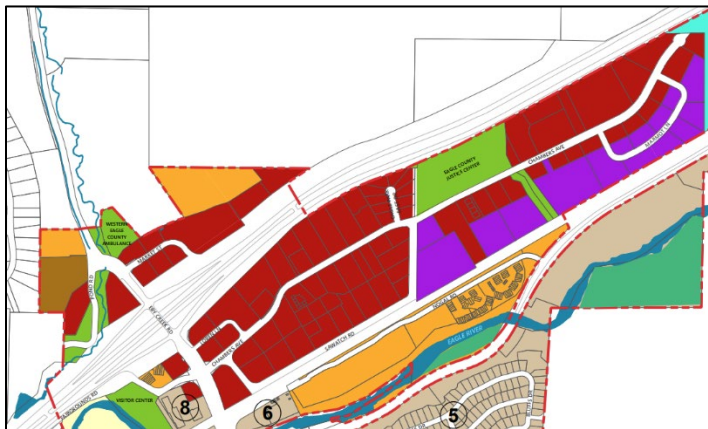
To achieve an intensity that transitions between Broadway and the residential neighborhoods in Old Town Residential (OTR), staff recommends a reduced building footprint, such as 10,000 square feet.

Building footprints from other developments include 8,641 square feet for Talon Flats, 6,078 square feet for Broadway Station, 6,814 square feet for 435 Eby Creek, and Phase 1 of Reserve at Hockett Gulch ranged from 12,712 square feet to 17,085 square feet.

Another recommendation is to modify the existing neighborhood protection standards to apply when adjacent to properties zoned OTR. Since the zone district limits the building height to 35 feet, this application would only be considered when building height projections (Section 4.02.040.D – [LINK](#)) are incorporated into the building design. Alternatively, the height trigger for these protections could be reduced to minimize the impact on adjacent properties.

COMMERCIAL GENERAL (CG) / LIGHT INDUSTRIAL (IND)

The Commercial General (CG) and Light Industrial (IND) zone districts are primarily located along Chambers Avenue, with some areas also extending north of I-70. The CG zone district is red, and the IND is purple on the Zone Map.



GOAL 2-7. POLICIES FOR THE INTERSTATE 70 INFLUENCE CHARACTER AREA: INCLUDING THE MARKET STREET AREA, EBY CREEK ROAD AREA, AND THE CHAMBERS AVENUE AREA.

- 2-7.1. Portions of the I-70 Influence character area are intended to support commercial and industrial uses, exclusive of other uses. Improvements along Chambers Avenue and Market Streets are auto-oriented with limited pedestrian amenities.
- 2-7.2. Workforce housing that directly supports on-site commercial or light industrial uses is considered an acceptable amount of residential in these districts.
- 2-7.3. The existing design theme on Market Street should be maintained or enhanced with any new development or redevelopment in this part of Town.
- 2-7.4. Within allowances established by the Town's level of service (LOS) standards, promote additional highway-oriented businesses (which may also serve local needs) in the vicinity of Eby Creek Road.
- 2-7.5. Encourage the development of vacant or underutilized lots at the western end of Chambers Avenue with more intensive uses that would benefit from their accessibility to the interstate corridor.

- 2-7.6. Maintain existing commercial and industrial zoning in the Chambers Avenue, Market Street, Sawatch Road, and Marmot Lane areas.

Within the CG district, both Dormitory Living/Hostel and Employee Dwelling Unit uses are permitted, while in the IND zone district, only Employee Dwelling Unit is allowed. The Employee Dwelling Unit is an accessory use. The LUDC does not provide a clear limit on the number of rooms for the Dormitory Living/Hostel use, nor a cap on the Employee Dwelling Unit use.

Staff recommendation:

To address the lack of clear density standards for specific residential uses, staff recommends establishing new use standards and identifying a residential density in the dimensional standards table for each zone district.

Specifically, for Employee Dwelling Units in the Commercial General (CG) and Industrial (IND) zone districts, staff recommends requiring a deed restriction that limits occupancy to employees of the principal commercial or industrial use on the lot. This would help ensure the residential units serve their intended purpose and preserve the primary function of these districts as employment centers.

The Town has observed a trend in other developments where smaller, less viable commercial spaces are built to maximize the number of residential units. This was previously an issue when the Town allowed a 1:1 ratio of accessory residential to primary commercial uses. Currently, Employee Dwelling Units have no defined limit, which creates a risk that a development could be disproportionately residential, undermining the purpose of the zone districts and the vision outlined in the Comprehensive Plan.

In addition to the deed restrictions, the Town could employ other use standards to maintain the appropriate balance between residential and commercial uses, including:

- Limiting the number of Employee Dwelling Units per lot (e.g., one unit per lot) to maintain a balance between residential and commercial uses.
- A size ratio limiting accessory residential use square footage to no more than a specific percentage (ex., 50%) of the primary commercial/industrial use;
- A density ratio such as one dwelling unit per a specific square footage (ex., 10,000 square feet) of commercial space.
- Size limits, such as square footage maximums, could also be placed to discourage the occupancy of families if residential amenities are not a requirement of the development.

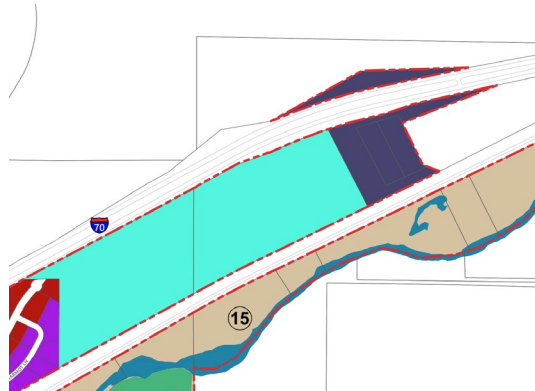
To manage the density for the Dormitory Living/Hostel use, the Residential Multi-Family (R3) density could be applied to the dimensional standards for both the CGE and IND zone districts, like the CMU2 zone district (see example below). The maximum density for the R3 zone district is 16 DU/acre.

Table 4.04-4: CMU2 Lot and Dimensional Standards			
Residential Dimensional Standards			Li
Applicable district standards	R3		N

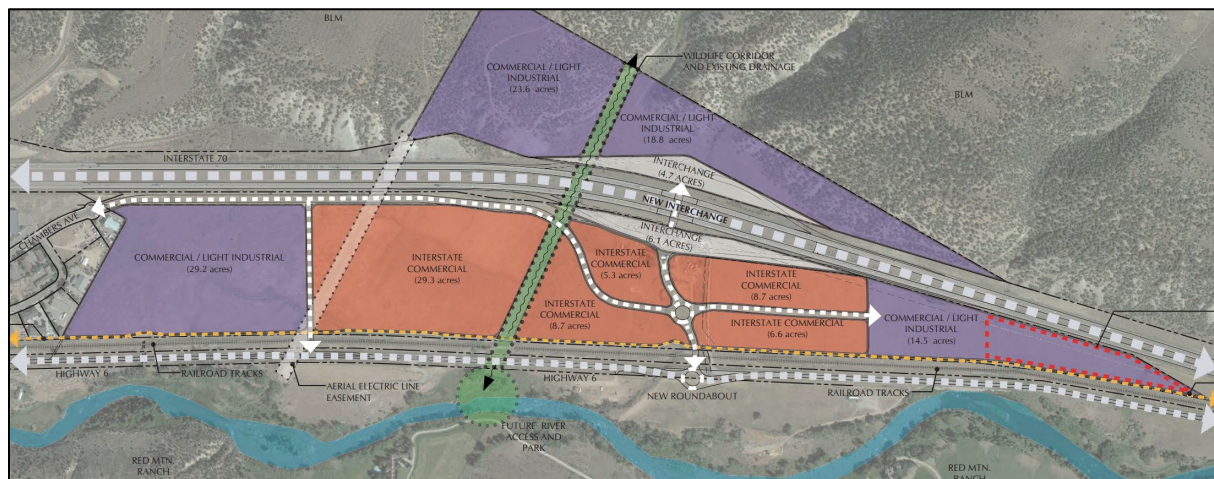
Section 4.03.050 ([LINK](#))

COMMERCIAL GENERAL EAST (CGE) / COMMERCIAL INTERCHANGE (CI)

The CGE and CI zone districts are located in the East Eagle area and comprise two parcels on approximately 100 acres of undeveloped land. The CGE zone district is identified with teal and the CI zone district is navy blue.



The Comprehensive Plan defers to the East Eagle Sub Area Plan (EESAP) for future land use designations, where the EESAP future land use map designation identifies Commercial / Light Industrial and Interstate Commercial Land use in the East Eagle area as shown below.



COMMERCIAL/LIGHT INDUSTRIAL

This area will include uses common to those that exist in the Chambers Avenue area but with larger lots that are more accessible to delivery trucks. Such uses include those typically seen in light industrial areas such as manufacturing, assembly, storage, distribution, repair, service, contractor's yards, outdoor retail, and kennels, AND commercial/retail uses typically not found on Broadway Street such as restaurants with drive up windows, grocery stores, gas stations, service establishments, storage facilities, and recreation establishments. Residential uses are limited and will mainly include accessory employee units.

INTERSTATE COMMERCIAL

This area should take advantage of the vehicular traffic present at interstate interchanges and provide the Town's citizens with alternatives to driving out of town for goods and service. This area shall primarily include lodging, regional retail, large-format restaurant, convenience stores/gas stations, and may include other service and recreation establishments. Because this will also be the eastern gateway to the Town of Eagle, uses should reflect the character of the Town's active/outdoor branding in addition to maintaining high quality design elements. Residential uses are limited and will mainly include accessory employee units.

Both land use designations state, "Residential uses are limited and will often include accessory employee units". Further, Policy 7.1 "Accessory on-site employee housing is encouraged throughout the planning area to support business opportunities". Density is not specified in the EESAP.

The CI zone district permits Dormitory Living/Hostel and Employee Dwelling Unit uses, while the CGE allows for Dormitory Living/Hostel, Employee Dwelling Unit, and Multi-Unit Dwelling uses.

The CGE dimensional standards can be accessed through this [LINK](#), and the CI standard through this [LINK](#).

Staff recommendation:

As with the CG and IND zone districts, the amount of residential development allowed through the Dormitory Living/Hostel and Employee Dwelling Unit uses in the CGE and CI districts remains unclear without defined limitations. Staff recommends applying the Residential Multi-Family (R3) density standard to these districts to establish a clear density cap for permitted residential uses. Any use standards applied to Employee Dwelling Units may be extended to the CGE and CI districts.

The CGE district permits Multi-Family Dwellings; however, the residential use does not appear aligned with the vision of the Eagle East Subarea Plan (EESAP), which limits residential to being an accessory use only. Staff recommends prohibiting the 'Multi-Family Dwelling' use in the CGE zone district until the EESAP is updated and the residential allowance in the East Eagle area is reconsidered and potentially expanded.

COMMUNITY INPUT:

The Comprehensive Plan ([LINK](#)), developed through extensive public outreach, guided staff's recommendation for policy solutions.

Public comment relevant to the density discussion was presented at the May work session. Those comments can be found here ([LINK](#)).

Otherwise, no additional public comments have been received for this work session.

BUDGET / STAFF IMPACT:

Staff anticipate minimal impact on the budget, aside from the legal costs associated with drafting code language.

STRATEGIC PLAN ALIGNMENT/STANDARDS ACHIEVED:

This effort supports the primary objective to 'Improve Community Responsive Services.'

RECOMMENDED ACTION OR PROPOSED MOTION:

Since this discussion item is allotted 1 hour, staff plan to keep the presentation brief to allow maximum time for input from the Town Council and Planning Commission. We encourage participants to come prepared with ideas and policy recommendations for addressing density standards in the Town's mixed-use and commercial zone districts.

ATTACHMENTS:

- Elevate Eagle Comprehensive Plan ([LINK](#))
- East Eagle Sub Area Plan ([LINK](#))
- West Eagle Sub Area Plan ([LINK](#))