

Climate Action Plan

Community Meeting | April 2, 2024

Project Team

County



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AMM

EcoDataLab

Meeting Goals



Provide an update on the Climate Action Plan (CAP) development process.



Vet the CAP strategy & action list to understand community priorities and concerns.



Begin discussing action implementation and considerations.

Meeting Agenda

Time	Item
10 min (6:00-6:10)	Welcome & introductions
35 min (6:10-6:45)	Presentation & interactive polling
15 min (6:45-7:00)	Q&A
25 min (7:00-7:25)	Interactive activity
5 min (7:25-7:30)	Thank you & adjourn

Technology Tips



- Use your **computer** to connect to Zoom.



- Use the **chat function** to submit questions and comments.

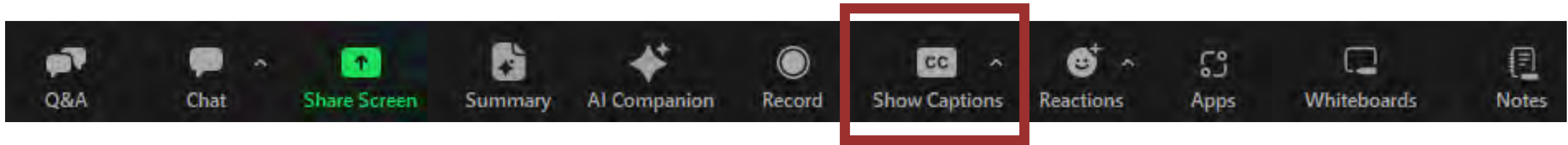


- Use the **raise hand function** to verbally ask a question.



- Keep your phone or headset **muted** unless you are speaking to the group.

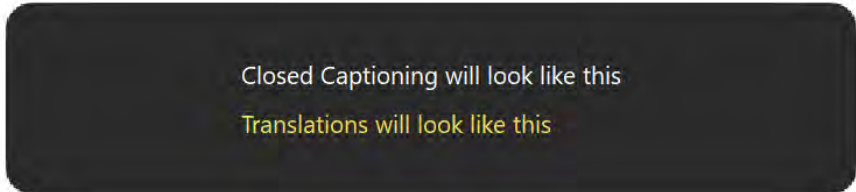
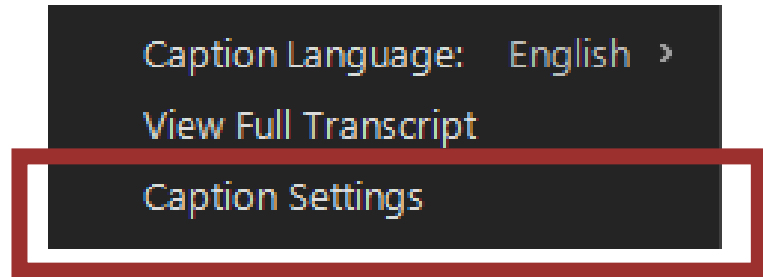
Closed Captioning



Click "Show Captions" to turn the transcript on.

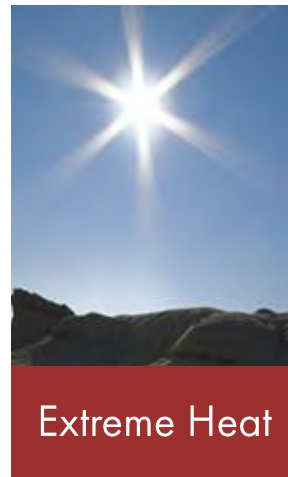
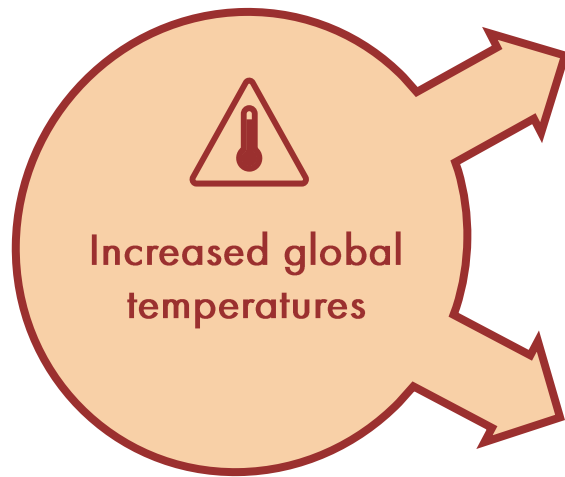
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2. Click "Caption Settings."
3. Move the slider to adjust the caption size.



Climate Action Plan Process Updates

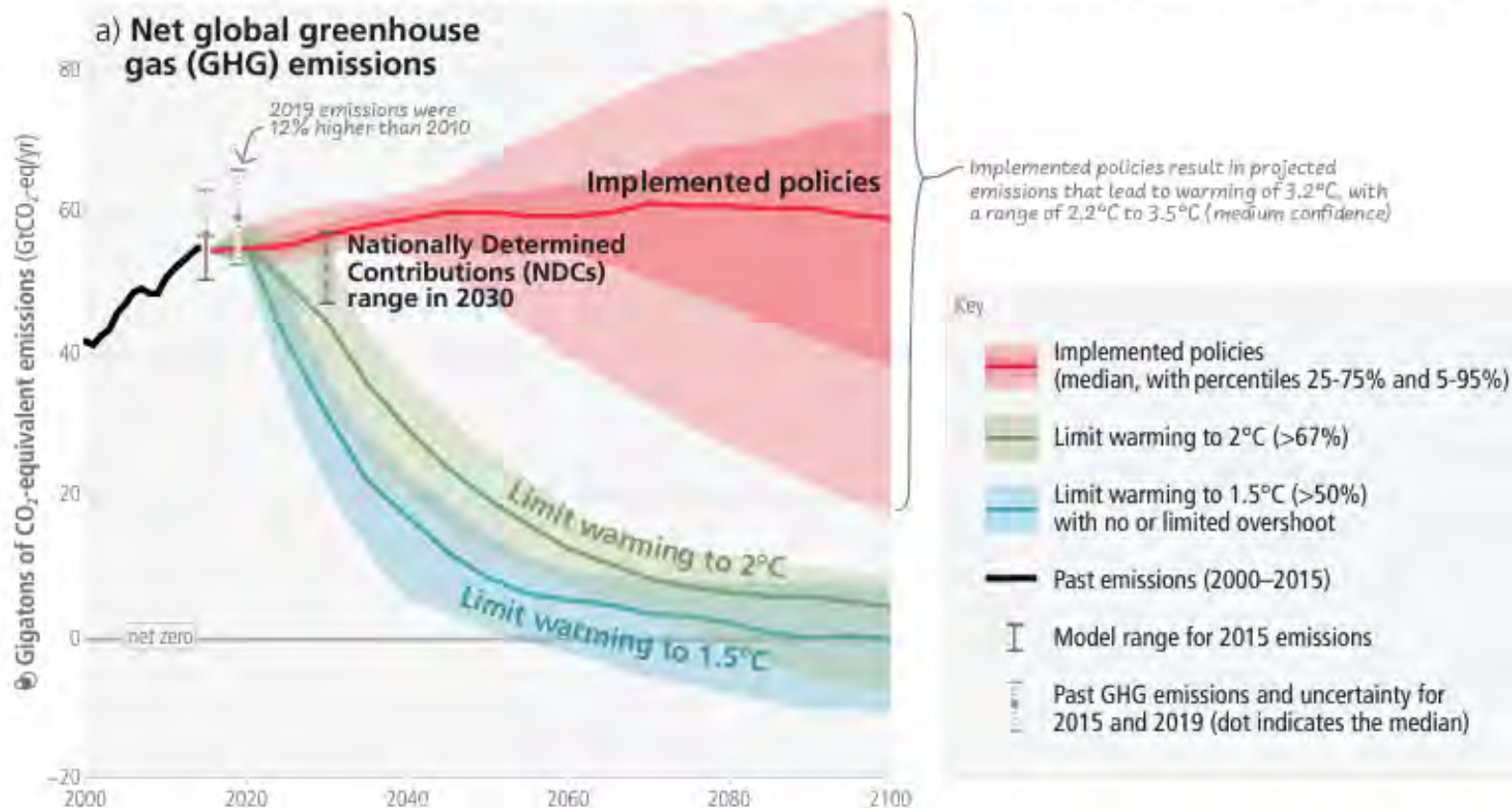
Why a Climate Action Plan?



Why a Climate Action Plan?

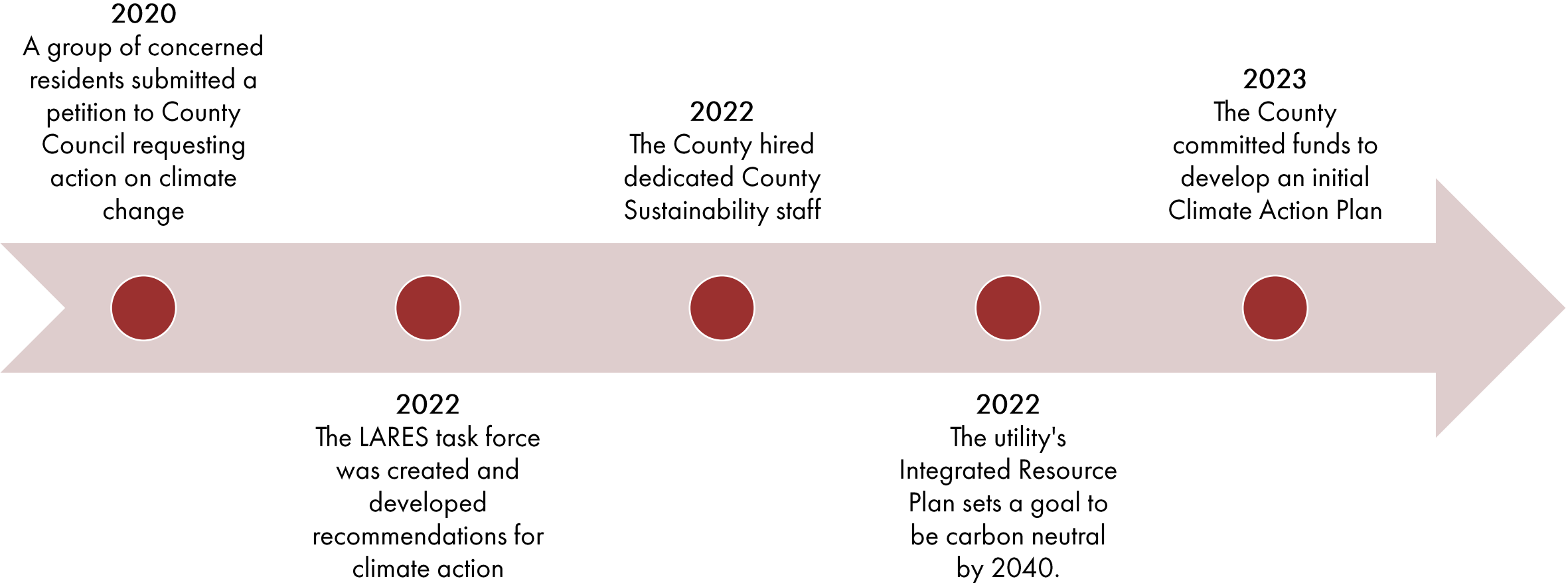
Limiting warming to **1.5°C** and **2°C** involves rapid, deep and in most cases immediate greenhouse gas emission reductions

Net zero CO₂ and net zero GHG emissions can be achieved through strong reductions across all sectors



IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001

Why a Climate Action Plan?



Why a Climate Action Plan?



Reduced energy costs



Cleaner air inside and outside

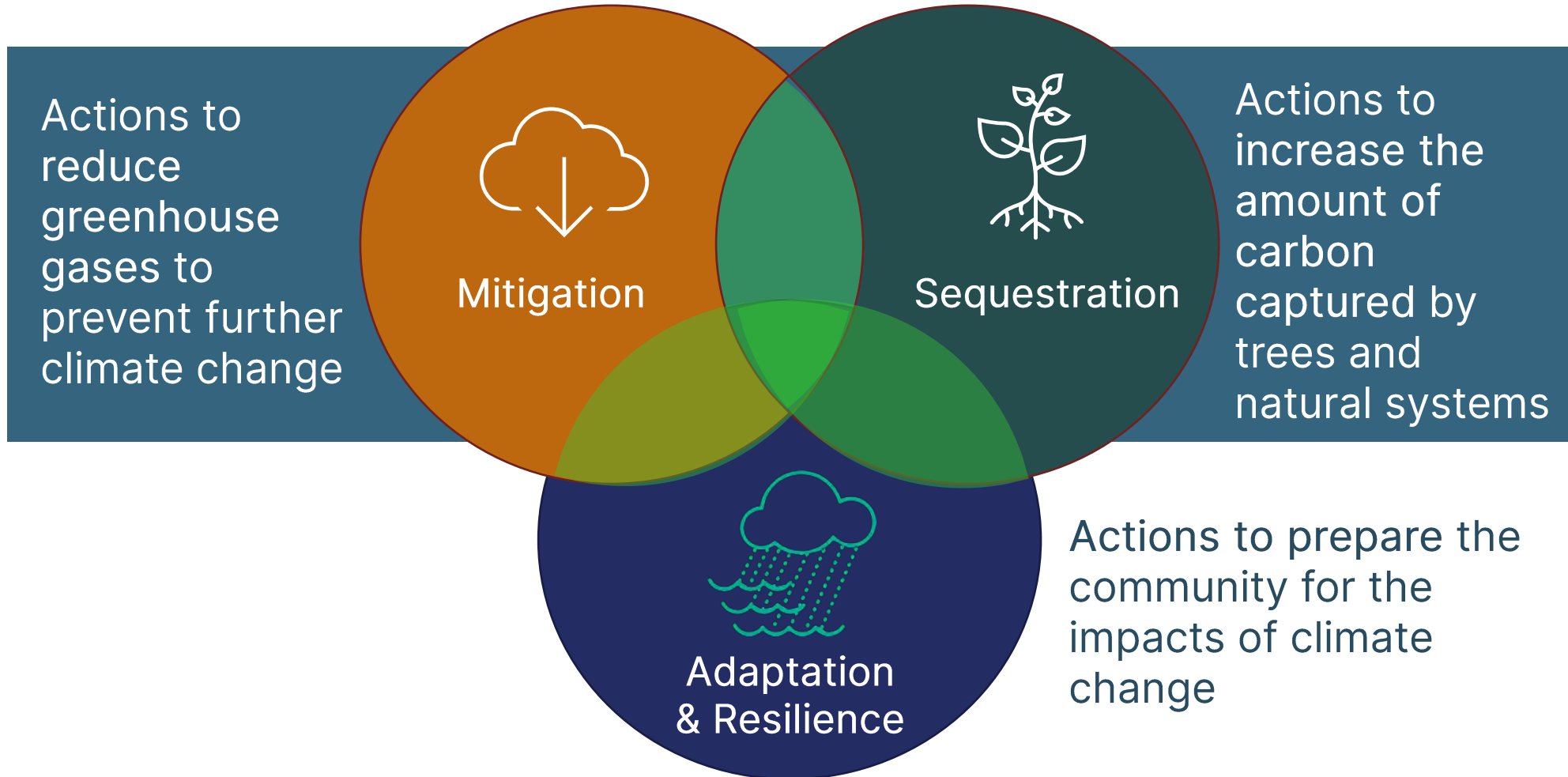


Healthier ecosystems & beautiful landscapes



Enhanced mobility options & public health

Climate Action Plan Objectives



Where We're At

- **Completed:**
 - GHG inventories
 - Community survey #1
 - Baseline policy assessment
 - Zero Waste Strategy
 - GHG forecasting model
 - Strategy and action list
 - Engagement with ESB & County staff on proposed strategies and actions
 - Cost, impact, and multi-criteria analyses
- **Upcoming:**
 - Community engagement
 - Draft CAP



GHG Inventory Types

Sector-Based

Community-Wide Geographic

- Quantifies emissions occurring generally within the county's geographic bounds from residents and visitors.
- Includes emissions from transportation, building energy, solid waste disposal, and wastewater treatment.

Government Operations

- Quantifies emissions from County government operations.
- Includes emissions from County vehicle fleet, facility energy, solid waste disposal, and County-owned wastewater treatment.

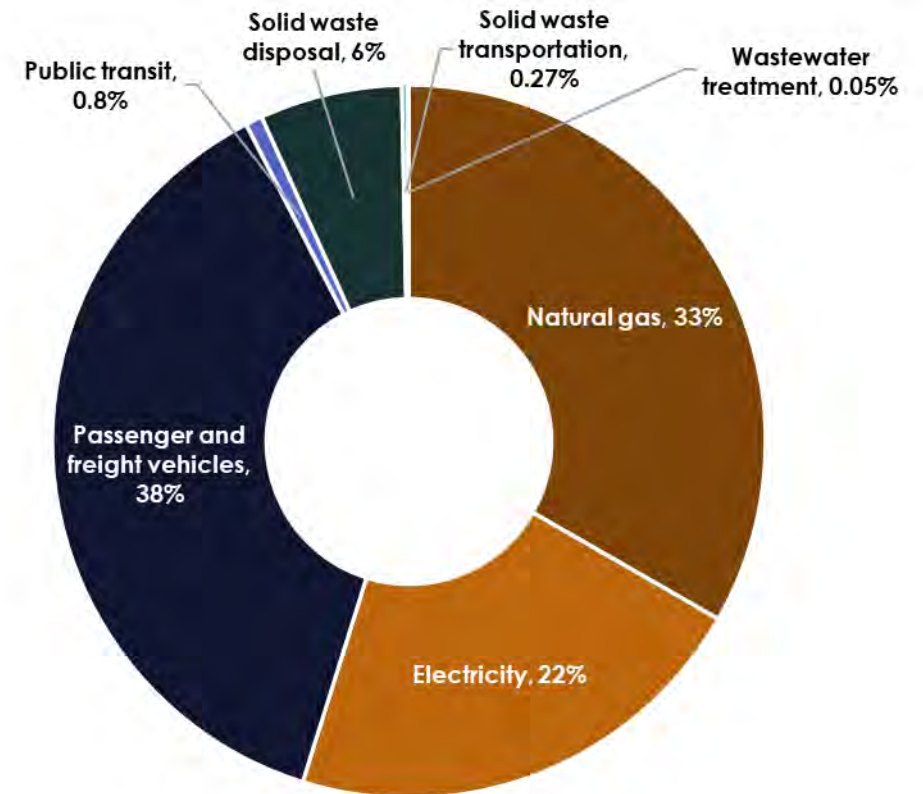
Consumption-Based

Consumption-Based (CBEI)

- Quantifies emissions occurring anywhere in the world from goods and services purchased by county residents.
- Includes "upstream" emissions associated with food, medical services, home furnishings, and vehicle purchases.

Community-Wide Geographic Emissions Overview

- Community-wide emissions were an estimated 137,670 MTCO₂e in 2022.
- The community's largest emissions sources in 2022 were from combining **building energy (55%)** and **transportation (38%)**.
- Los Alamos National Laboratory's (LANL) emissions are not included due to data limitations.

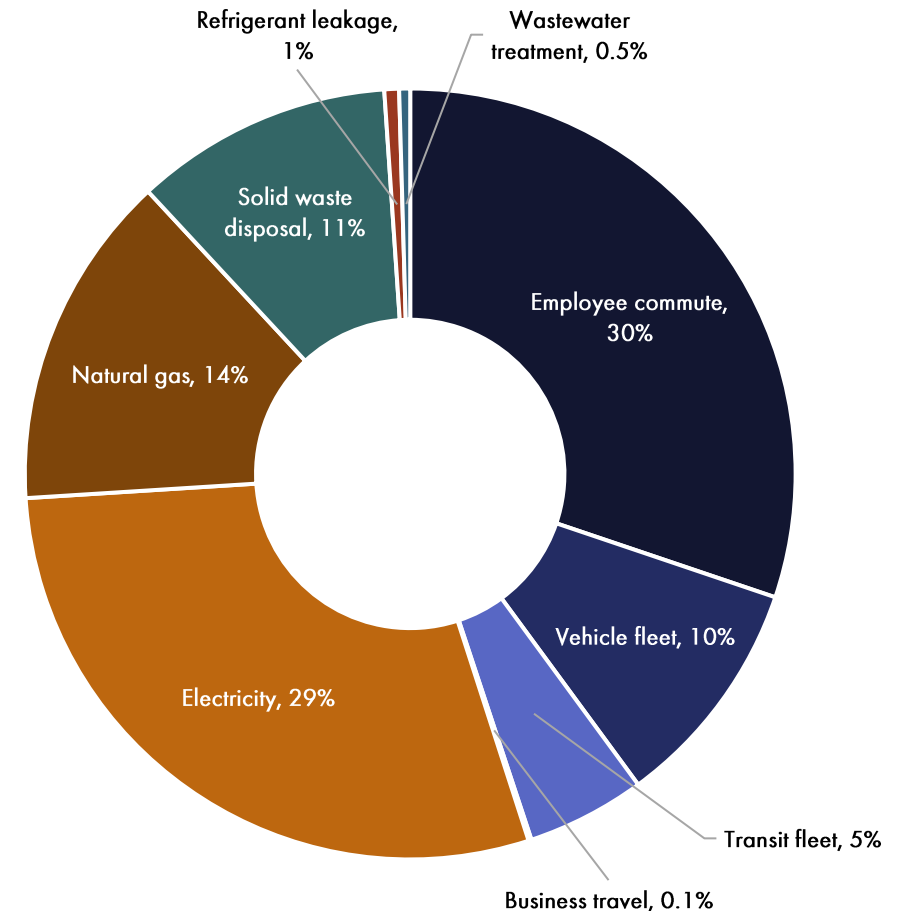


Takeaways & Recommendations

- The community's largest sources of emissions in 2022 were **passenger and freight transportation (38%)**, **natural gas consumption (33%)**, and **electricity consumption (22%)**.
- Emissions reductions actions should aim to:
 - Expand sustainable transportation options, such as biking, walking, and public transportation.
 - Expand electric vehicle infrastructure and adoption.
 - Increase building energy efficiency.
 - Increase renewable energy sources.
 - Promote building electrification.

Government Operations Emissions Overview

- County operations emissions were estimated at 15,031 MTCO₂e in 2022.
 - This is equivalent to ~11% of community-wide emissions.
- The County's largest emissions sources in 2022 were from the **transportation (55%)** and **building energy (31%)** sectors.
- The County's largest emissions sub-sources were **employee commute (37%)**, followed by **electricity (20%)**.



Takeaways & Recommendations

- Los Alamos County's operations largest sources of emissions in 2022 were **employee commute (30%), electricity consumption (29%), natural gas consumption (14%), solid waste disposal (11%), and vehicle fleet (10%)**.
- Emissions reductions actions should aim to:
 - Increase commute-trip reduction strategies for County employees.
 - Decarbonize buildings & enhance energy efficiency.
 - Reduce waste generation and increase waste diversion.
 - Shift to lower-carbon vehicle fleet and equipment.

Community Survey



Survey Overview

- Objective was to understand:
 - Community priorities and concerns related to the County's future, climate change impacts, and climate action.
 - Level of support for possible CAP strategies.
- Completed by 552 Los Alamos community members.
- Informed draft list of climate actions.

Top Strategies

What TOP THREE STRATEGIES do you think the Los Alamos Climate Action Plan should focus on?

- Transition to clean, carbon free energy sources (41%)
- Expand and protect green spaces and natural ecosystems (38%)
- Make buildings in the community more energy efficient (30%)

CAP Actions

Developed and refined using:

- GHG studies
- Community survey and community engagement
- Baseline policy assessment
- Climate action best practices
- Feedback and revisions identified by County staff and Environmental Sustainability Board

Focus Areas



Buildings & Energy

(8 draft actions)



Transportation

(10 draft actions)



Materials & Consumption

(6 draft actions)



Natural Systems & Water Resources

(6 draft actions)



Community Resilience & Wellbeing

(4 draft actions)



Cross-Cutting

(6 draft actions)

Buildings & Energy

Advance building decarbonization

Incentivize electrification retrofits

Develop a contractor training program

Electric equipment replacement at burnout

Increase building efficiency

Establish an energy benchmarking program for commercial buildings

Establish an energy benchmarking program for municipal buildings

Encourage energy efficiency and electrification retrofits

Adopt green building standards

Increase renewable energy generation

Promote local renewable energy

Expand energy resiliency

Transportation

Expand EV infrastructure and adoption

Promote EV adoption

Develop and EV infrastructure plan

Implement codes requiring EV infrastructure

Transition County fleet to EVs

Expand and promote multi-modal connectivity

Introduce public transit education campaign

Advocate and partner regionally to improve transit network

Encourage multimodal transportation

Expand non-motorized transportation options and accessibility

Develop a CTR program

Enhance sustainable land use planning

Expand mixed-use, transit-oriented development policies

Materials & Consumption

Maximize waste diversion

Promote circular economy practices

Implement food waste prevention and diversion program

Expand and refine waste data tracking, reporting, and goals

Promote C&D recycling and reuse

Implement the zero waste strategy

Conduct recycling and composting outreach and education

Natural Systems & Water Resources

Increase urban green space

Promote urban forest stewardship and tree preservation

Provide green space incentives

Conserve water resources

Promote green stormwater infrastructure and low-impact development

Develop a water security strategy

Encourage sustainable landscaping and water conservation

Provide greywater reuse education

Community Resilience & Wellbeing

Enhance community understanding of climate change

Conduct a vulnerability assessment

Invest in public climate education campaigns

Support the local food system

Prepare the community for climate impacts

Encourage adaptation upgrades

Cross-Cutting

Encourage sustainable businesses

Develop a sustainable business certification program

Bolster green economic development

Promote climate education outreach

Facilitate equitable public participation in planning

Monitor and share climate action progress

Collaborate with local Pueblos

Expand community partnerships

Action Analyses

Action Analyses Overview

Impact Analysis

- Quantitative assessment
- 15 actions
- Estimated high-level emissions reductions from action implementation

Multi-Criteria Analysis

- Qualitative assessment
- 40 actions (all)
- Scored actions based on four criteria: impact, cost, equity, and co-benefits

Cost Analysis

- Quantitative assessment
- 8 actions
- Estimated high-level costs and cost savings for County and community from action implementation

Impact Analysis



Forecasting Scenarios

BAU – Business-as-usual

- Estimates community-wide forecasted emissions based on population and economic growth.

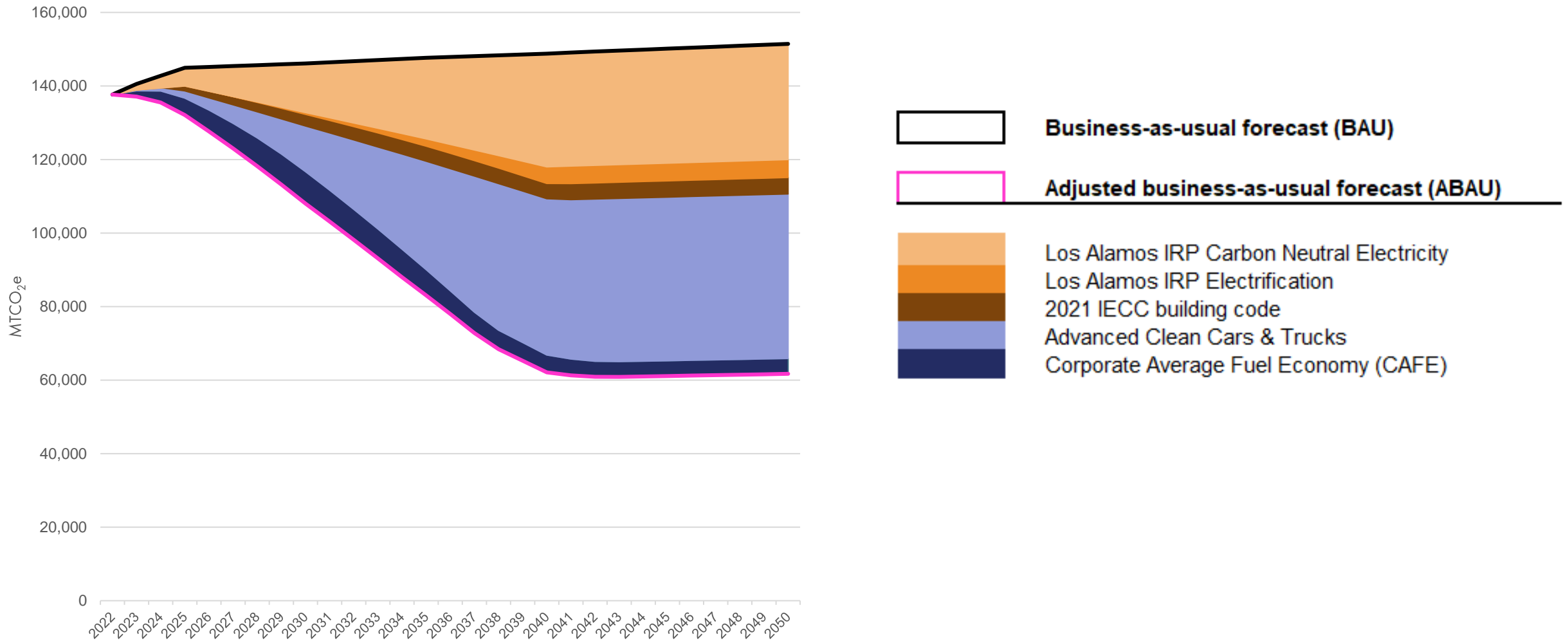
ABAU – Adjusted business-as-usual

- Shows how existing federal, state, and local policies could affect community-wide emissions in the future.

Local climate action

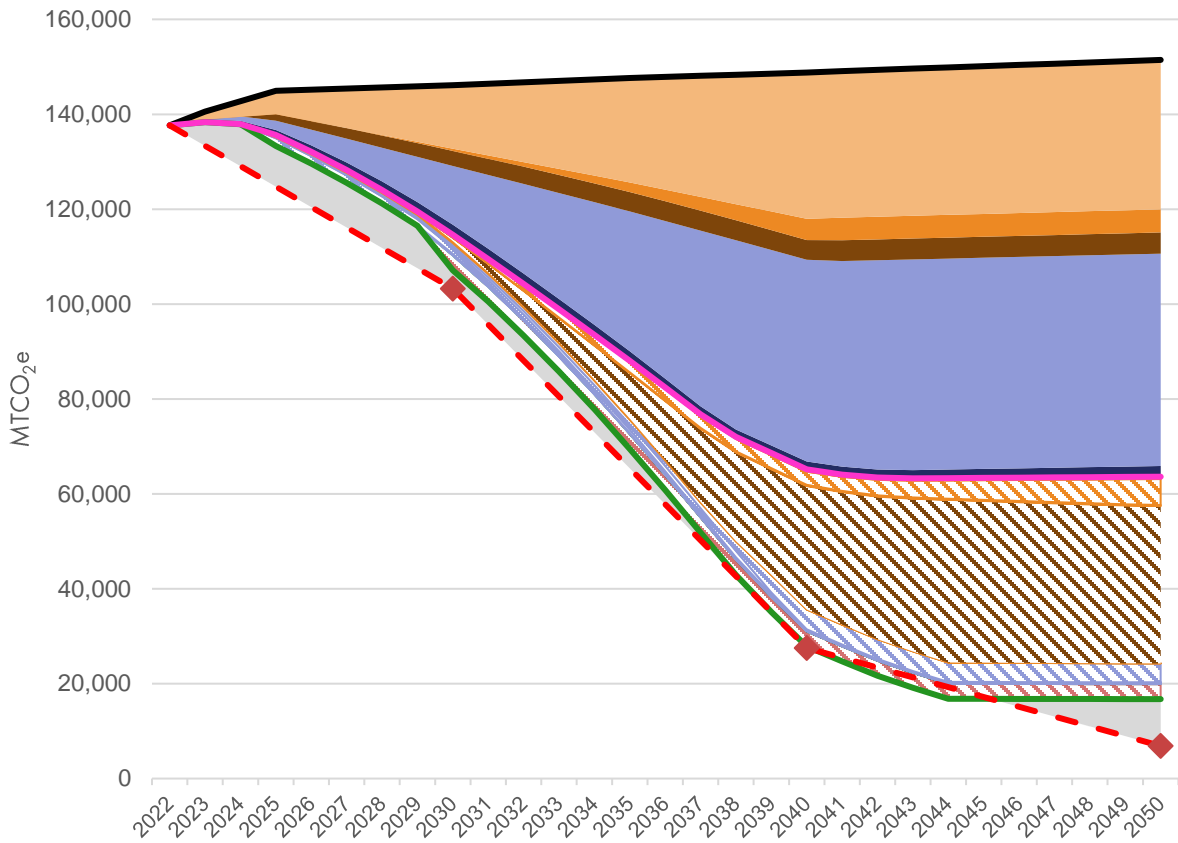
- Shows how implementation of local climate strategies & actions could affect community-wide emissions in the future.

Sector-Based Emissions Forecast: Existing Policies



Sector-Based Emissions Forecast: Draft CAP Actions

Los Alamos County GHG Emissions



CAP Actions	
BE1.3	Encourage energy efficiency and electrification retrofits
BE1.4	Adopt green building standards
BE2.1	Incentivize electrification retrofits
BE2.2	Develop a contractor training program
BE2.3	Electric equipment replacement at burnout
T1.1	Promote EV adoption
T1.2	Develop EV infrastructure plan
T2.1	Expand mixed-use, transit oriented development policies
T3.2	Advocate and partner regionally to improve transit network
T3.3	Encourage multimodal transportation
T3.4	Expand non-motorized transportation options and accessibility
MC1.3	Implement food waste prevention and diversion program
MC1.4	Promote C&D recycling and reuse
CC1.1	Develop a sustainable business certification
NS1.1	Promote urban forest stewardship and tree preservation

Note:
To avoid double counting, action modeling is stacked sequentially based on the BAU, ABAU, and then action-level assumptions.

Sector-Based Emissions Forecast:

CAP Actions

		Cumulative Reductions (MTCO ₂ e)		
		2030	2040	2050
BE1.3	Encourage energy efficiency and electrification retrofits	165	3,492	8,364
BE1.4	Adopt green building standards	843	20,962	63,563
BE2.1	Incentivize electrification retrofits	65	1,315	3,027
BE2.2	Develop a contractor training program	32	654	1,506
BE2.3	Electric equipment replacement at burnout	672	121,922	447,772
BE3.1	Promote local renewable energy	3,072	5,030	5,030
T1.1	Promote EV adoption	1,878	18,248	58,923
T1.2	Develop EV infrastructure plan	1,878	10,236	10,236
T2.1	Expand mixed-use, transit-oriented development policies	8,255	15,112	17,986
T3.2	Advocate and partner regionally to improve transit network	244	376	376
T3.3	Encourage multimodal transportation	244	1,208	1,208
T3.4	Expand non-motorized transportation options and accessibility	243	372	372
MC1.3	Implement food waste prevention and diversion program	105	284	467
MC1.4	Promote C&D recycling and reuse	-	471	1,269
CC1.1	Develop a sustainable business certification	-	194	456
NS1.1	Promote urban forest stewardship and tree preservation	3,140	34,543	65,946

Summary & Takeaways

- Achieving impactful, long-term GHG emissions reductions will require significant investment and policies to **transition buildings and vehicles from fossil fuels (natural gas, gasoline) to clean electricity**.
- **Carbon sequestration** (e.g., from tree preservation/planting) will be necessary to reach net zero emissions in the long term.
- Currently proposed CAP actions put the County on a path toward **net-zero emissions** by 2050.

GHG Reduction Target



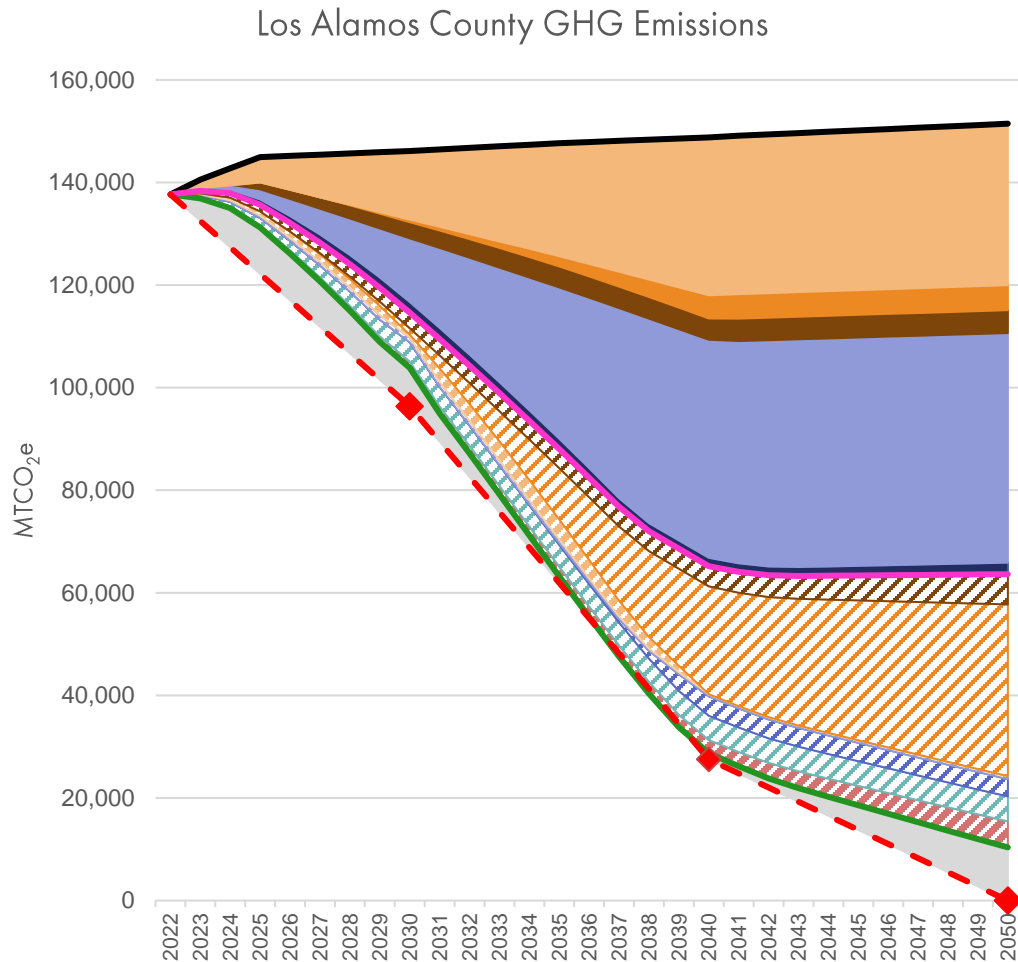
Target Setting Considerations

- **Context:** What are peer communities doing? The state?
- **Science:** What is needed to avoid the worst impacts of climate change?
- **Feasibility:** What is feasible to achieve in a given timeframe?
- **Investment:** How much is Los Alamos County government & community willing to invest in climate action?
- **Lever:** What is the willingness to introduce requirements, mandates, or standards vs. voluntary or incentive programs?

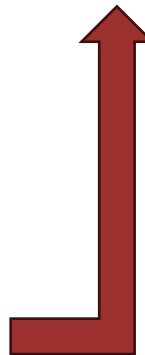
Context

Jurisdiction	Baseline Year	Target
United States	2005	Reduce emissions by 50% by 2030 and achieve net zero emissions by 2050.
State of New Mexico	2005	Reduce emissions by 45% by 2030.
Los Alamos National Laboratory (LANL)	2008	Reduce Scope 1 and 2 emissions by 65% by 2030; achieve 100% zero-emission vehicle acquisition by 2035; achieve net-zero building emissions by 2045; achieve net-zero procurement emissions by 2050.
Santa Fe, NM	N/A	Achieve carbon neutrality by 2040 and transition to 50% renewable energy by 2025.
Livermore, CA	1990	Reduce emissions by 40% by 2030 and achieve carbon neutrality by 2045.
Las Cruces, NM	2018	Reduce community-wide emissions by 80% by 2050.

Target: 80% reduction by 2040 and carbon neutral by 2050



Los Alamos County Strategy Scenarios* - INPUTS	2030	2040	2050
Target (% reduction compared to 2022)	30%	80%	100%
Increase energy efficiency (% reduction in building energy consumption)	5%	10%	15%
Building electrification (% of nat. gas in that year converted to electric)	10%	60%	100%
Local renewable generation (% of grid electricity transitioned to local renewables)	3%	5%	10%
VMT reduction (% decrease in overall VMT)	5%	10%	15%
EV adoption (% EV adoption for new passenger vehicles)	80%	90%	100%
Waste diversion - composting (% increase in diversion)	40%	50%	100%
Waste diversion - recycling (% increase in diversion)	40%	50%	100%
Carbon sequestration (new acres of tree cover)	5	10	20



* All percent reductions are relative to the ABAU in the year of reductions. For example, energy usage in 2040 will be 15% more efficient than it would have been 2040's ABAU.

Multi- Criteria Analysis



Criteria and Weights

Criterion	Weight
Impact , including emissions-reduction and/or resilience-building potential.	35%
Cost , including affordability and expenditure timeframe for both the County and community.	30%
Equity in the distribution of benefits and consideration of vulnerable populations.	20%
Realization of co-benefits , including improved public health and job creation.	15%
TOTAL	100%

Top Scoring Actions

Action ID	Action Name	Total Score
T2.1	Expand mixed-use, transit-oriented development policies	4.7
NS1.1	Promote urban forest stewardship and tree preservation	4.4
T3.2	Advocate and partner regionally to improve transit network	4.1
BE2.3	Electric equipment replacement at burnout	4.0
NS2.1	Promote green stormwater infrastructure and low-impact development	3.9
CR1.1	Conduct a vulnerability assessment	3.9
BE1.4	Adopt green building standards	3.8
CC1.2	Bolster green economic development	3.8
NS1.2	Green space incentives	3.8
T3.4	Expand non-motorized transportation options and accessibility	3.8

Summary & Takeaways

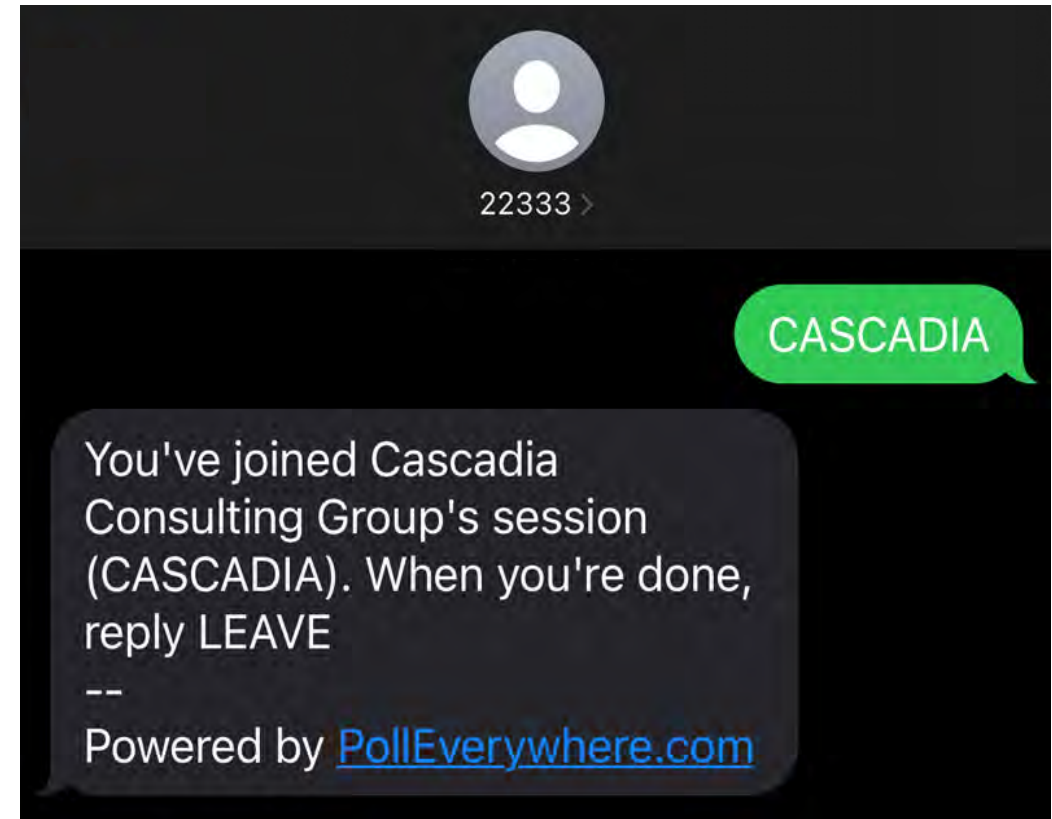
- Almost **all focus areas** had high scoring actions and are worth pursuing.
- MCA allows us to consider factors outside of cost and impact, such as **co-benefits and equity**, to make the case for some actions.
- Cost analysis helps us identify actions where **grants, incentives, and rebates** will be especially important.
- MCA, cost, and impact analyses help us plan for **implementation timeframes**.

Polling Questions

How to use Pollev

Respond by:

- Going to pollev.com/Cascadia
- Texting CASCADIA to 22333



1. What's your favorite chile?

Red

0%

Green

0%

Christmas

0%

None

0%

2. Which focus areas should be the highest priority for the CAP? (Select up to 2.)

Buildings & Energy

0%

Transportation & Land Use

0%

Materials & Consumption

0%

Natural Systems & Water Resources

0%

Community Resilience & Wellbeing

0%

Cross-Cutting

0%

3a. For the Buildings & Energy focus area: Which actions do you most support? (Select up to 3.)



3b. For the Buildings & Energy focus area: Which actions do you least support, if any? (Select up to 3.)



SEE MORE 

4a. For the Transportation & Land Use focus area: Which actions do you most support? (Select up to 3.)

T1.1: Promote EV adoption

0%

T1.2: Develop EV infrastructure plan

0%

T1.3: Implement codes requiring EV infrastructure

0%

T1.4: Transition County fleet to EVs

0%

T2.1: Expand mixed-use, transit oriented development policies

0%

T3.1: Introduce public transit education campaign

0%

T3.2: Advocate and partner regionally to improve transit network

0%

T3.3: Encourage multimodal transportation

0%

T3.4: Expand non-motorized transportation options

0%

SEE MORE 



5. What actions are we missing?

Nobody has responded yet.

Hang tight! Responses are coming in.

6. What suggestions do you have to make these actions more impactful and equitable?

Nobody has responded yet.

Hang tight! Responses are coming in.

7. What challenges may we face in meeting our target?

Nobody has responded yet.

Hang tight! Responses are coming in.

8. How should we overcome those challenges?

Nobody has responded yet.

Hang tight! Responses are coming in.

Optional demographic questions

0 surveys completed



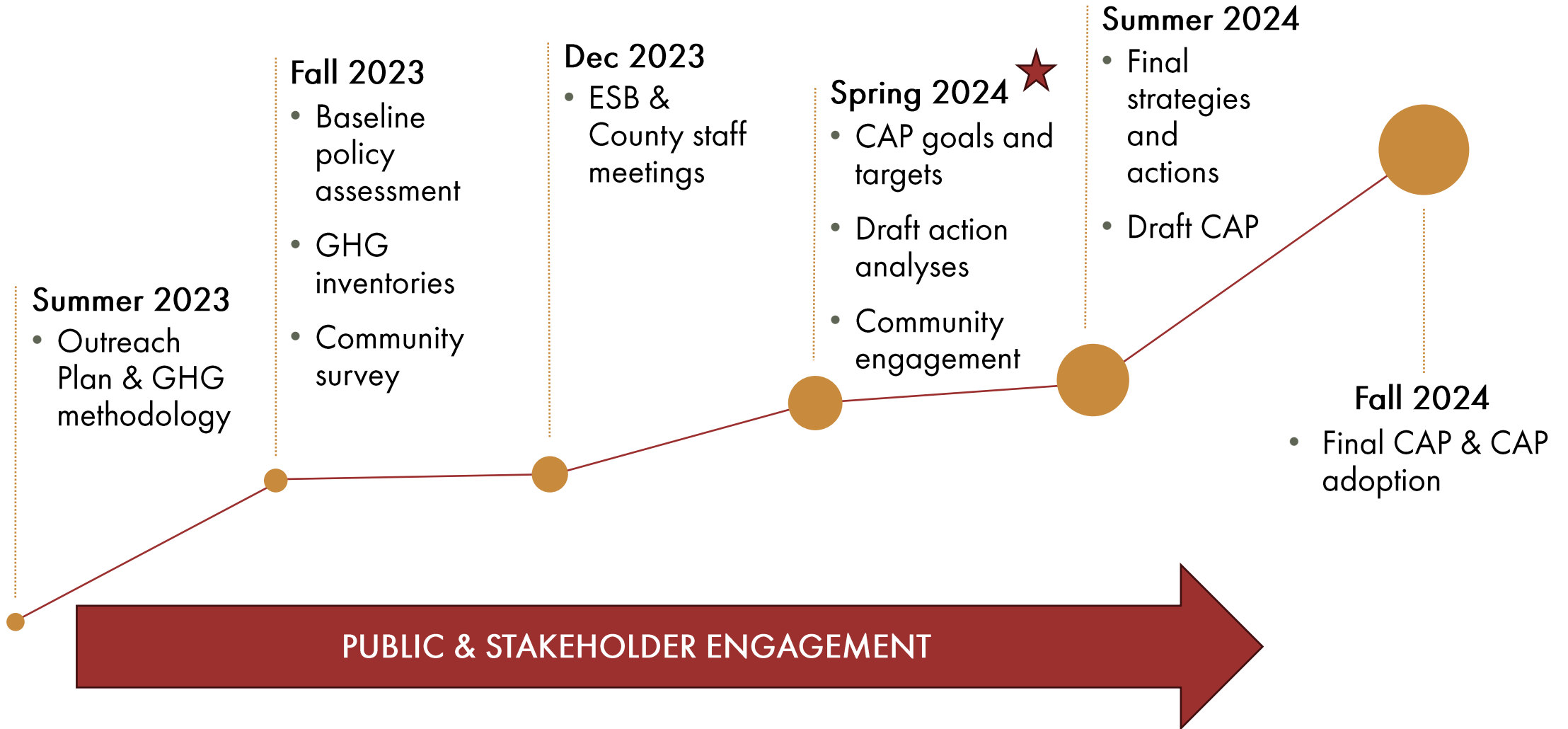
0 surveys underway

Next Steps

Next Steps

- **Engage with the community:**
 - Vet action list and begin planning for implementation through:
 - Interactive community workshop (today)
 - Focus groups and interviews
- **Finalize action list and action analyses** using input from community and Council
- **Develop draft CAP & implementation plan:**
 - Receive input on draft CAP from community and Council
 - Draft detailed implementation plan
- **Finalize the CAP and implementation plan**

CAP Timeline



Thank you! Questions?

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Interactive Activity (until 7:25)

1. Review the proposed strategies and actions for the Climate Action Plan.
2. Think about and **note any feedback you have about the proposed actions.**
For example:
 - What are some considerations or key steps that should be taken in implementing these actions?
 - What are your ideas for overcoming specific barriers in implementing these actions?
 - How can the County best support you while implementing these actions?
 - Do you have any other feedback for the County regarding these actions?
3. If you're referring to a specific action, please **note the action ID** on your sticky note.

Thank you
for your
participation!

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