

LOS ALAMOS

Project Work Plan

GHG Study & Climate Action Plan



INTRODUCTION

This document details the project work plan for Cascadia Consulting Group (Cascadia)—in partnership with EcoDataLab and AMM Consulting—to provide climate action planning and GHG analysis support for Los Alamos County.

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PROJECT OBJECTIVES

Cascadia will provide Los Alamos County with a comprehensive greenhouse gas (GHG) study to inform Climate Action Plan (CAP) strategies and actions for a more sustainable future. The final products will be well-informed by community, stakeholder, and County staff engagement to ensure buy-in and feasibility.

A successful end product will...

- Be an evidence-backed roadmap to a more sustainable future and a carbon-neutral County government and community.
- Prioritize the most impactful (GHG reduction) actions with the best ROI.
- Be informed by engaged stakeholders and community members.
- Provide realistic and measurable emission reduction goals.
- Help to answer the following questions:
 - What will give Los Alamos the best ROI? What will make the biggest impact toward meeting goals?
 - What are Los Alamos' stakeholder/public ideas and priorities?
 - What are the primary GHG emission sources? What is under County operations direct control vs. what community can do (and what is the County's role in community action)?
 - How can the County support state/national level efforts/needs?
 - What are the potential unintended consequences to disadvantaged sectors of the community? What can be done to minimize potential negative impacts?
 - What are the financial, environmental, and social impacts of climate actions (triplebottom line lens)?
 - o How should the County engage people who really don't care about the environment?

This work plan presents tasks, deliverables, assumptions, budget, and timeline for the Los Alamos CAP. Specific task and deliverable parameters and assumptions beyond those included in the contract are indicated throughout this work plan in dark red italicized text.

PROJECT TEAM

The Consultant Team Project Manager, Andrea Martin, and Deputy Project Manager, Alicia Fennell, have the overall authority and responsibility for managing and executing this project. The core project team will consist of the following personnel:

Name	Affiliation	Title	Role
Andrea Martin	Cascadia	Project Manager (PM)	Andrea will serve as the project manager and primary client contact. She will oversee all tasks and ensure project execution within stated budget and timeline.
Alicia Fennell	Cascadia	Deputy PM & Lead Writer	Alicia will assist in project management and serve as a primary client contact. She will also lead writing of the CAP and associated deliverables.
Jenna Decker	Cascadia	GHG Analyst & Project Support	Jenna will lead the GHG analysis and will provide general project support.
Ben Gould	EcoDataLab	Consumption- based GHG Lead	Ben will lead the consumption-based GHG inventory, BAU projections, and tier 2 recommendations.
Amy Miller	AMM Consulting	Outreach/ Engagement Lead	Amy will co-lead in-person outreach and engagement with the Cascadia team.
Angelica Gurule	County	CAP Lead, Sustainability Manager	Angelica will be the primary County point of contact for development of the Community CAP, will serve as a core team member and will provide general project support.
Abbey Hayward	County	Water and Energy Conservation Coordinator for Department of Public Utility	Abbey will serve as a core team member for the development of the Community CAP and will provide general project support.
Julie Williams- Hill	County	Public Information Officer	Julie will consult on all public outreach efforts.
Linda Matteson	County	Deputy County Manager	Linda will be the primary County point of contact for the development of the Community CAP, serve as a core team member and will provide general project support.

Los Alamos CAP Project Work Plan

All stated project deliverables will be reviewed and approved by Los Alamos County. All funding decisions will also be made by Los Alamos County.

SCOPE OF WORK

TASK 1.1: PREPARE AND PROVIDE WORKPLAN

Cascadia hosted a kickoff meeting with the County and Cascadia project teams to discuss expectations, considerations, roles, logistics, timeline, and any other key elements. This meeting helped garner a shared understanding of the project's process and allowed the opportunity to gather local context to ensure deliverables are reflective of Los Alamos County's unique needs. Cascadia documented the shared takeaways in a project workplan and timeline.

Following the kickoff meeting, Cascadia and County project managers will continue coordination on project progress. Weekly check-ins will be scheduled for 0.5 hours through the stated project timeline; the frequency of these check-ins may be adjusted based on needs. Using Deltek Vision project management software, Cascadia will provide monthly invoices and progress reports that detail budget expended and associated progress on deliverables.

Deliverables

- Project workplan
- Smartsheet timeline
- Weekly 0.5 hour check-ins
- Monthly invoices and progress reports

TASK 1.2: PREPARE AND PROVIDE AN OUTREACH PLAN

Cascadia will prepare an outreach plan that outlines community and stakeholder engagement touchpoints and strategies throughout the project to gather feedback. This plan will identify key stakeholders and groups it will be important to engage with throughout the project and will define stages in the project different types of engagement will be most successful. Engagement strategies, such as utilizing a survey, will also be defined in this plan. The outreach plan will develop an engagement roadmap that leads to intentional and equitable engagement that describes how feedback will be incorporated into final deliverables to ensure representative final products with community and stakeholder buy-in.

Deliverables

Outreach plan, including a plan for monthly plan updates and opportunities for informal feedback via social, electronic, and written media

TASK 2.1: PREPARE AND PROVIDE A COMPREHENSIVE GHG **EMISSIONS STUDY**

Cascadia and will prepare a comprehensive sector-based communitywide and County operations GHG inventories following standardized calculation methodologies defined by best-use protocols (the USCP, GPC, and LGOP). Inventories shall be performed in ICLEI ClearPath for the inventory year of 2022.

The communitywide inventory will calculate emissions from:

Sector	Base Sources	Additional Sources
Built Environment	 Residential, commercial, and industrial electricity and natural gas consumption Transportation and distribution losses of electricity and natural gas 	
Transportation	On-road personal and freight vehicle transportation	Public transit
Water / Wastewater	 Energy consumed to convey potable water and treat wastewater¹ 	
Solid Waste	Landfill waste generation, collection, and disposal	
Agriculture & Forestry	None	

The County operations inventory will calculate emissions from:

Sector	Sources
Built environment	Electricity and natural gas consumption from County operations, including emissions from County owned utilities.
Transportation	On- and off-road fleet and equipment, employee commute, and business travel.
Solid waste	Landfill waste generation, collection, and disposal from County facilities, including any emissions from County owned landfills.
Other (if available)	Refrigerant leakage from County refrigeration and cooling equipment.

Cascadia will ensure that all aspects of the GHG inventories will be replicable by the County in the future, including data collection and calculation.

Upon completion of the GHG inventories, Cascadia will develop a GHG inventory report and a highlevel wedge analysis to forecast GHG emissions. The report will include an executive summary, introduction, scope and methodology, results, and analysis section. The high-level wedge analysis will use the communitywide GHG inventory results to forecast future estimated GHG emissions and reductions following a "business-as-usual" (BAU; no action future) and "adjusted business-as-usual" (ABAU; reductions from state and federal policies). Cascadia will additionally model the estimated emissions reduction from high-level CAP strategies.

Deliverables:

- Sector-based communitywide and County operations GHG inventory
- GHG forecasting and high-level wedge model

¹ Note this energy consumption is often included in electricity data already collected for the built environment. If these processes are performed outside of the County's boundaries, we would separately calculate, otherwise we would rely on energy consumption data to avoid double counting.

- GHG report and 1-page fact sheet/executive summary
- Community meetings to cover inventory results (included in Task 3.3)

TASK 2.2: PREPARE CONSUMPTION-BASED GHG INVENTORY

EcoDataLab will prepare a countywide consumption-based emissions inventory (CBEI) from 2007-2021 using the EcoDataLab/CoolClimate inventory approach. This inventory approach will be partnered with locally-specific data from the community inventory as practical. The CBEI will estimate emissions from the transportation, housing, food, goods, and services categories. Three tiers of policy recommendations (Tier 0, Tier 1, and Tier 2) for emissions reduction strategies will then be made based on the results of the CBEI with a pathway towards being carbon neutral/negative by 2050. Upon completion of the CBEI analysis and policy recommendations EcoDataLab will prepare a report that an includes an overview, analysis of major emissions contributors, review of historical data, breakdown of category emissions, analysis of major driving factors, supply chain analysis, neighborhood tract-level analysis, methodology, BAU projections through 2050, review of policy strategies and range of impacts, and recommendations to address CBEI emissions.

Deliverables

- County- and tract-level CBEI datasets for 2007-2050
- Data key (in Excel)
- County- and tract-level CBEIs with modeled policy effects for 2021-2050
- CBEI report
- CBEI BAU projections
- CBEI Tier 2 recommendations

TASK 3: PREPARE AND PROVIDE A COUNTY-SPECIFIC CLIMATE ACTION PLAN (CAP)

Cascadia will conduct a baseline policy assessment that compares Los Alamos County to peer jurisdictions. Cascadia will develop a list of CAPs for jurisdictions similar to Los Alamos County and a document review template to standardize review of documents. Cascadia will conduct the assessment and summarize results into a memorandum. Cascadia will provide in-depth review up to 6 documents/policies for this effort (from Los Alamos County or peer jurisdictions).

Deliverables

Policy assessment memorandum (~ 5 pages)

TASK 3.1: TARGET SETTING AND METRICS

Cascadia will utilize the results of the GHG inventories, wedge, and policy assessment to inform targets and metrics to reach carbon neutrality by 2050. Targets will be specific, measurable, achievable, relevant, and time-based. Cascadia will review preliminary goals/metrics from the County's relevant planning documents, including existing County goals and targets. Cascadia will also review the most relevant regional/state commitments. Cascadia will review up to 6 County documents/policies, and County staff will direct Cascadia to the most relevant sections/excerpts within selected documents.

Cascadia will summarize the goals and metrics in a brief memo and summary matrix, developed for seamless integration into the final CAP. The memorandum will include the following:

- **Overarching qualitative goal statements** for each focus area that strive to achieve the CAP vision.
- Strategy-level quantitative metrics/KPIs (including timelines) to track progress towards emissions reduction targets throughout CAP implementation.

Engagement with the community and stakeholders will occur at this stage to make sure targets reflect the community's goals.

These targets and metrics will inform the development of CAP strategies and actions (Task 3.2) by providing insight into which focus areas and strategies need to be prioritized to meet the County's goals.

Deliverables

- Draft goals and metrics memorandum (no more than 3 pages)
- Climate goals and metrics summary matrix

TASK 3.2: STRATEGY AND ACTION DEVELOPMENT

Strategy and action development: Cascadia will develop a set of approximately 50 policy options, strategies, and measures that:

- Meet or exceed federal, state, and local legislative requirements
- Align with County's existing policies and programs
- Inform the community of expected climate impacts
- Create an adaptable and resilient community
- Reflect community priorities
- Are feasible and cost effective
- Are organized by focus area (buildings, transportation, waste, natural systems, and community resilience)

Multi-criteria analysis: Following identification of 50 policy options, Cascadia will perform a multi-criteria analysis (MCA) to prioritize the most impactful policies. Cascadia will score each policy based on a set of criteria, which could include impact, cost, co-benefits, equity, feasibility, buy-in from County departments, and urgency. Cascadia will work with the County to decide on up to 5 criteria for the MCA.

Once the MCA has been performed, policy options will be narrowed down to the most impactful 20-30 high-priority actions for consideration to integrate into the CAP.

Cost analysis: Cascadia will perform a cost analysis on up to 10 actions to estimate costs of action implementation and return on investment (ROI). Costs considered include: costs to residents, staff time, consultant services, procurement, start-up and long-term costs, and the cost of inaction. Grant funding recommendations will be included in the CAP.

Quantitative GHG impact assessment and wedge analysis: Cascadia will perform a quantitative GHG impact assessment by modeling up to 25 high-priority actions in the developed wedge model

to estimate associated emissions reductions. Cascadia will work with the County to identify the 25 actions to be assessed at this stage.

Zero Waste Pathway: Cascadia will conduct a high-level examination of Los Alamos' existing waste stream, discuss goals and existing solid waste services with County representatives, and produce a brief memo summarizing opportunities for the County to reduce waste and increase reuse by exploring zero waste strategies and policies.

We will begin by reviewing any available waste characterization study data for Los Alamos to identify the jurisdiction's main material streams and top materials; knowing the current composition of Los Alamos' waste will help us efficiently identify priority areas for further study and waste reduction efforts. Following this data-gathering effort, Cascadia will hold a meeting with Los Alamos' solid waste staff (and/or other staff, as appropriate) to gain a fuller understanding of its current waste prevention, recycling, and waste diversion services and programs. In addition, we will use this meeting to explore other County priorities or areas of interest (in addition to climate/emissions impacts) that may intersect with its solid waste management plans and practices. Cascadia will hold this meeting via Zoom or Microsoft Teams.

Once we have completed our data review and gathered supporting information from County staff, we will draw on Cascadia's quarter-century of zero waste planning experience to draft a list of best practices recommended for further study, pulling from our proprietary library of zero waste strategies. We will select best practices based on their relevance to Los Alamos' waste composition, solid waste management programs and priorities, and external rubrics such as Zero Waste International's Zero Waste Hierarchy.

We will create a brief Zero Waste Pathway document to County staff in draft form for review, discuss any potential additions, requested strategy changes, or general revisions, and submit a final draft in the form of a short memo. This memo and the associated zero waste strategies can also be integrated into the final Climate Action Plan.

Deliverables

- Policy options (~50)
- MCA resulting in 20-30 high-priority actions
- Cost analysis (up to 10 actions)
- Quantitative GHG impact assessment (up to 25 actions)
- Zero Waste Pathway memorandum (no more than 5 pages)

TASK 3.3 IMPLEMENT OUTREACH PLAN

Throughout the project, Cascadia will implement the outreach plan that was developed in Task 1.2 to ensure the CAP is well informed by community feedback and reflective of community priorities. Cascadia will develop communication materials, employ a survey, facilitate and provide materials for community and stakeholder meetings, and utilize an online sharing platform to solicit community feedback on the draft CAP.

Deliverables

- 10 facilitated engagement events (including event materials; more detail can be found in the Outreach Plan)
- Facilitation and management of 1 online survey

• Facilitation and management of 1 online sharing platform

TASK 3.4: DRAFT AND FINAL CLIMATE ACTION PLAN

Cascadia will pull all the pieces of the project together to develop an impactful, well-informed, equitable, evidence-based, and feasible CAP with community and stakeholder buy-in. The CAP will set the scene with an introduction and background, then dive into high-level inventory results and implications, define Los Alamos' vision for the future, goals, and KPIs, and describe the strategies and actions that will be implemented to reach defined goals.

We will work closely with our graphics and design team to create a clear, concise, and visually engaging Climate Action Plan. Our budget assumes ~10 hours of design support; we will discuss design/graphics priorities with the County later in the process.

We anticipate that the CAP will follow the following flow and length:

Introduction and background: This will describe the vision of a resilient, low-emissions Los Alamos, explain the importance of the CAP, and highlight overlaps with other local plans and initiatives (2-4 pages).

Inventory results and implications: This section will include a discussion of major emissions sources over which Los Alamos may have influence, inventory trends, climate vulnerabilities and impacts to vulnerable communities, and other key conclusions (4-6) pages).

Vision, goals, and KPIs: This component will frame the CAP by introducing Los Alamos' vision for the future and emissions reduction and climate resiliency goals over the short and long term (2-4 pages).

Community engagement: This section will describe the community and stakeholder engagement and outreach process and key takeaways (1-2 pages).

Strategies and actions: We will describe overarching climate action strategies and their supporting actions, as determined in Task 3.2 (12–25 pages).

Implementation: We will highlight the importance of implementation and include a detailed implementation plan (5-18 pages).

Appendices: As needed, the plan will include more detailed information in appendices. Appendices will only include deliverables from other tasks; we do not envision drafting new content for appendices. Appendices will be drafted and formatted in Word.

Deliverables

- Climate Action Plan (25–60 designed pages, without appendices):
 - o 1 round of County review and consultant revisions on initial CAP outline
 - o 1 round of County review and consultant revisions on public draft CAP
 - 1 round of County review/approval and consultant revisions (minor) on final CAP

TASK 3.5: DEVELOP IMPLEMENTATION PLAN

Cascadia will prepare an implementation plan that provides a description of the measure, an implementation timeline, defines the lead agency, estimates staffing needs, lists potential funding sources, and defines a long-term action plan for continued engagement with key groups. This implementation plan will be integrated into the final CAP.

Deliverables

- Implementation plan
 - o Cascadia will develop framework and fill in initial implementation details as available (e.g., timeline, potential partners, potential funding/grant opportunities), and County will complete remaining implementation details (e.g., lead departments, immediate next steps).
- Database of organizations and contact information for engagement, as developed and maintained as part of the Outreach Plan

TASK 4: PROVIDE DATA TOOLS RECOMMENDATIONS

Cascadia will prepare a memorandum that recommends data tools and/or platforms that may be utilized by the County to track progress of CAP goals and targets. The recommended tools and/or platforms should have data visualization capabilities, scalable predictions, streamlined quality control, allow drilling down into detailed data, be user-friendly, and have a visually appealing dashboard.

Deliverables

• Data tools recommendation memorandum (no more than 5 pages)

TIMELINE

A high-level schedule for project completion is provided below. A more detailed and dynamic schedule is available on **SmartSheet**. Any adjustments or deviations to this schedule will be reflected in Smartsheet and discussed with the County.

												-					
Tasks and Deliverables																	
Months after contract execution	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Days after contract execution	30	60	90	120	150	180	210	240	270	300	330	360	390	420	450	480	510
Month	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1. Prepare and Provide a Work Plar	า																
Kickoff Meeting, Project Workplan		♦															
Develop Outreach Plan		•	♦														
Biweekly Check-in Calls, Invoicing																	
2. Prepare and Provide a Comprehe	ensive (GHG Er	nission	s Study	<i>'</i>												
Prepare Sector-Based GHG						•	♦										
Inventory																	
Prepare Consumption-Based GHG						•	♦										
Inventory																	
3. Prepare and Provide a County-Sp	oecific (Climate	Action	Plan													
Baseline Policy Assessment				•	*												
Target Setting and Metrics								•	♦								
Strategy and Action Development									•	•			•				
& Analyses																	
Implement Outreach Plan																	
Public Draft CAP														•			
Final CAP																	*
Develop Implementation Plan																	♦
4. Provide Data Tools Recommendations																	
Recommend Data Tools																•	*
KEY																	
Draft Deliverable																	
♦ Final Deliverable																	

CONSULTING TEAM & COUNTY ROLES

The table below presents consulting team and country roles for each task and throughout the project.

Task	Cascadia	AMM Consulting	EcoDataLab	County		
Throughout project	Develop and finalize deliverables, incorporating County feedback.	eliverables, incorporating engagement progress related emissions to		Review and provide consolidated feedback on deliverables.		
				We assume that deliverables have one round of County review and associated revisions, unless otherwise specified.		
1 - Work Plan;	Lead meetings.	Review outreach plan.	Confirm work plan &	Participate in meetings.		
kickoff and project management	Drait & linalize workplan & Confirm wor		timeline. Participate in check-in	Review & confirm work plan & schedule.		
	Maintain project schedule.	Participate in check-in	meetings, as needed.	Reference schedule, as		
	Prepare monthly invoices	meetings, as needed.		needed.		
	& progress reports.			Review monthly invoices & progress reports.		
2 - GHG emissions study	Lead geographic GHG data collection & analysis.	Plan & manage logistics for two community	Lead consumption based GHG data	Support data collection by supplying data		
	Summarize & report on	meetings.	collection & analysis.	contacts and reaching out directly to		
	findings.		Summarize & report on findings.	out unccuy to		

Task	Cascadia	AMM Consulting	EcoDataLab	County
				unresponsive or select external contacts.
				Review & confirm GHG analysis findings.
3 – County-Specific Climate Action Plan	Lead strategy/action development & supporting assessments. Implement outreach plan. Draft & finalize CAP document.	Integrate community priorities into strategies/actions. Implement outreach plan. Review and provide input for CAP.	Identify consumption- related CAP actions. Integrate consumption-related topics into CAP.	Support County data collection for assessments. Support outreach plan implementation. Add County-specific details and context to implementation plan.
4 - Data Tools Recommendations	Recommend data tools.	None.	Identify/review recommended data tools.	Review recommended data tools.

COMMUNICATIONS & COORDINATION

We will use the following communication norms for this project:

- We will err on including Andrea, Alicia, and Angelica in all project-related communications.
- All project content-related communications will include Andrea, Alicia, and task leads, as pertinent.
- Andrea and/or Alicia will meet virtually with Angelica on a weekly basis. Other consultant/County team members will join as necessary. The standing agenda for the biweekly check-in call will include:
 - Progress update on tasks.
 - Discussion and planning for upcoming meetings/deliverables.
 - Next steps and to-dos.
- In-person meetings between Los Alamos County and the consultant team will be determined in the CAP outreach plan.
- We will use Cascadia's SharePoint folder to share documents.
- We will use Microsoft Teams for project meetings.

RISK MANAGEMENT

The following table presents potential challenges or risks for the project and actions to mitigate those risks:

Risk/Challenge	Mitigation/Action
Data to support recommendations, with community engagement Implementable recommendations	 Develop CAP action list based on data collected throughout the project, including the GHG inventories, baseline policy assessment, and community priorities and opinions. Ensure action list is implementable by vetting it with County staff and stakeholders.
	 Develop an implementation plan to identify action timelines, lead staff, potential partners, equity notes, and other implementation considerations.
"Don't tell me what to do" – public	Invite community members to be involved in the CAP process to share their ideas to help shape the Plan.
engagement	Encourage stakeholders to conduct their own outreach to their communities, so that not all outreach and engagement efforts are coming from County or consulting staff.
	Frame the CAP as a community-wide effort and invitation, not something that individuals are responsible for implementing.
Considerations for underserved communities are reflected	At the start of the project, fill out a key contacts and stakeholders list with organizations and groups that represent underserved communities. Invite communities to participate throughout the process and through a variety of engagement channels.
	Throughout the project, track demographics of participants and compare against community demographics; discuss opportunities for course-correction if certain groups are under- or over- represented.
Strong	Vet methodology with County staff.
methodology, model that is customized	Use local data whenever available.
for Los Alamos	Discuss opportunities to customize data/models with County staff.

QUALITY MANAGEMENT

The following written deliverables will be reviewed by Cascadia's Editorial Board prior to delivery to the County:

- Public communications and outreach materials.
- Draft CAP for public comment.
- Final CAP.

The following products will be reviewed by Cascadia's Quality Assurance Quality Control Team prior to delivery to the County:

- Geographic greenhouse gas inventory.
- Cost analysis.
- Quantitative GHG impact assessment and wedge analysis.