Comprehensive Climate Analysis for Nevada (CCAN)

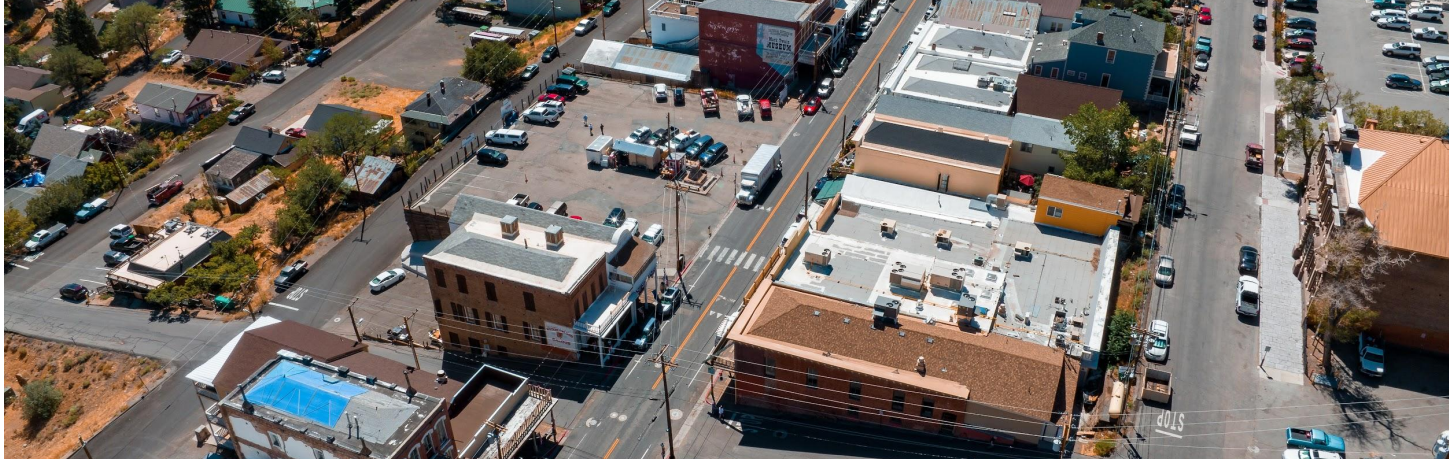
Draft Feedback Meeting

September 23, 2025

Nevada Department of CONSERVATION & NATURAL RESOURCES

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

Welcome



Hybrid Introductions

- <u>In chat and on the post-it wall:</u>
  - Your name and organization.
    - Online, add an emoji that represents you today.
  - Why is the CCAN important to you?

Online Housekeeping

Use the Chat or the MentiMeter to make comments and answer questions.

Use the Zoom Q+A to ask NDEP and consultants questions.

Keep microphones off, cameras are optional.

In-Person Housekeeping

Use the MentiMeter to make comments and answer questions alongside online participants.

Raise hand to ask a question; a facilitator will moderate the Q+A periods.

MentiMeter Access – Sept. 23

Go to www.menti.com
and enter code 7527 1865

Follow link in chat.

Scan QR code on your phone.

Objectives

Share an overview of emission reduction scenarios available to Nevada, including financial and benefit analyses.

Share highlights of emission reduction measures for each of the major sectors.

Answer your questions and comments about the CCAN, and provide guidance for submitting additional feedback.

Agenda

Welcome and Overview 10 minutes

Engagement Findings 10 minutes

Emission Reduction Scenarios 15 minutes

Benefits Analysis 10 minutes

Financial Analysis 15 minutes

Sector Highlights 15 minutes

Closing 5 minutes

Feedback

MentiMeter:

What aspects of the CCAN are you most interested in?

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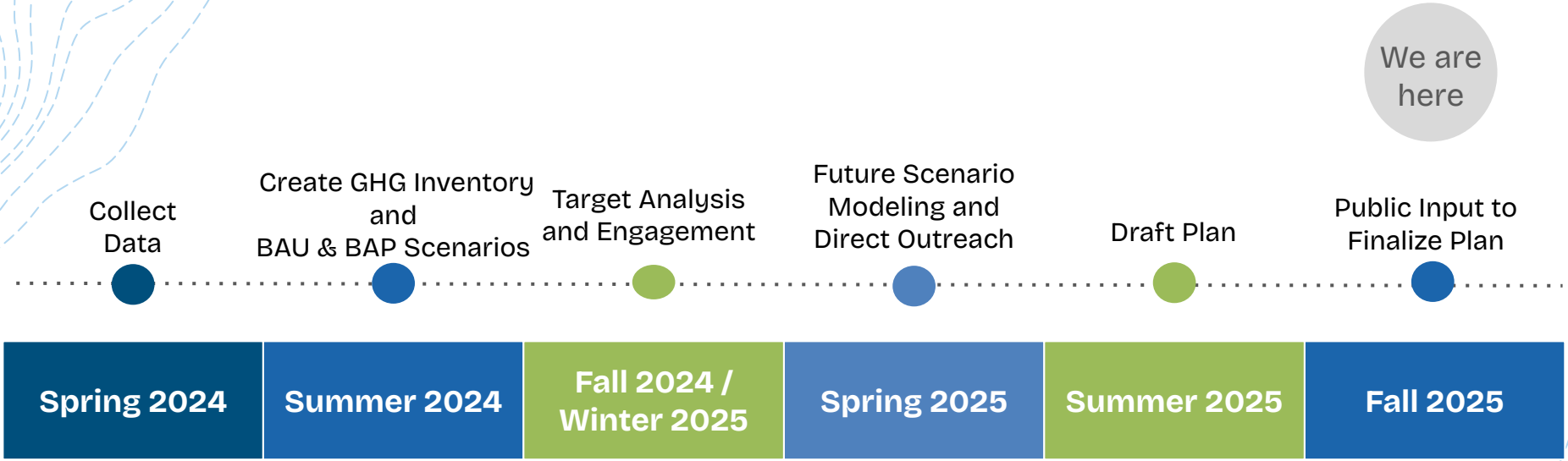
Overview

CCAN Purpose

Provide Nevadans with a key resource for making informed decisions about climate measures that directly reduce emissions while improving health, resiliency, and quality of life in their communities.


We are here
Collect Data
Create GHG Inventory and BAU & BAP Scenarios
Target Analysis and Engagement
Future Scenario Modeling and Direct Outreach
Draft Plan
Public Input to Finalize Plan
Spring 2024
Summer 2024
Fall 2024 / Winter 2025
Spring 2025
Summer 2025
Fall 2025

Process

How to Read the CCAN

This analysis is intended for everyone — residents, governments, businesses, utilities and other partners.

It outlines **how climate measures could reduce emissions and generate co-benefits** such as improved air quality and public health outcomes alongside increased economic development.

The CCAN is **a resource to help inform implementation** of measures at a variety of scales and is not intended to be a roadmap of how greenhouse gas emissions should be reduced in Nevada.

Outline of CCAN

Executive Summary: A quick overview of the key points of analysis - read this first!

Engagement Findings: How residents, organizations, and partners helped shape the analysis.

GHG Inventory: A summary of where emissions come from.

Reference Scenarios: What emissions could be under "business-as-usual" (BAU) and "business-as-planned" (BAP) scenarios.

Targets: Emission reduction goals for Nevada in 2030 and 2050.

Reduction Measures and Emissions Projections: An overview of the proposed three scenarios:

- Low Carbon Scenario
- Mixed Fuel Scenario
- Community Driven Scenario

Outline of CCAN Continued

Implementation Strategies: How measures could move from vision to reality with specific entities, funding sources, and timelines defined.

Benefits: An overview of impacts like cleaner air, cost savings, and job creation, including expected benefits for low income and at-risk communities.

Workforce Planning: A look at the jobs and training needed to carry out the proposed measures.

Glossary & Appendix: More details and explained methodology explained.

Engagement Findings

Feedback

MentiMeter poll:

Who has attended previous engagement activities related to the PCAP and CCAN?

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What Happened

Engagement Activities for the CCAN

- Three technical working group meetings
- Three newsletters
- Interviews with key organizations
- Community benefit focus groups

Key Themes

- **Big Picture and Underlying Conditions**
  - Maintain communication with interested and affected parties.
  - Promote and celebrate emission reduction successes throughout Nevada.
- **Affordability**
  - Many households can only adopt emission reduction measures that have no upfront costs.
  - Many of the people who are most impacted by effects of climate change also face additional barriers to taking measures.
  - High utility costs are an overall top-of-mind issue contributing to household financial stress.
- **Public Health**
  - Reduced respiratory illness and overall improved health are core outcomes of reduced emissions.

Key Themes

- **Community-Owned Energy**
  - Increase access to ownership and supply of renewable energy (i.e. electricity co-ops, Tribal Nations, community solar).
- **Connected Communities**
  - The urban environment needs to be conducive for active modes and transit (i.e. shade cover, sidewalks).
  - Local and regional public transit that is reliable, comfortable and fast public transportation is a higher priority for many than ZEVs.
- **Ongoing Engagement**
  - Advance tangible opportunities for implementation (i.e. policies, funding).
  - Develop programs that consider the interconnection of household emission reduction with other systems that influence participation (i.e. other priorities, taxes, technical, eligibility).

Q+A

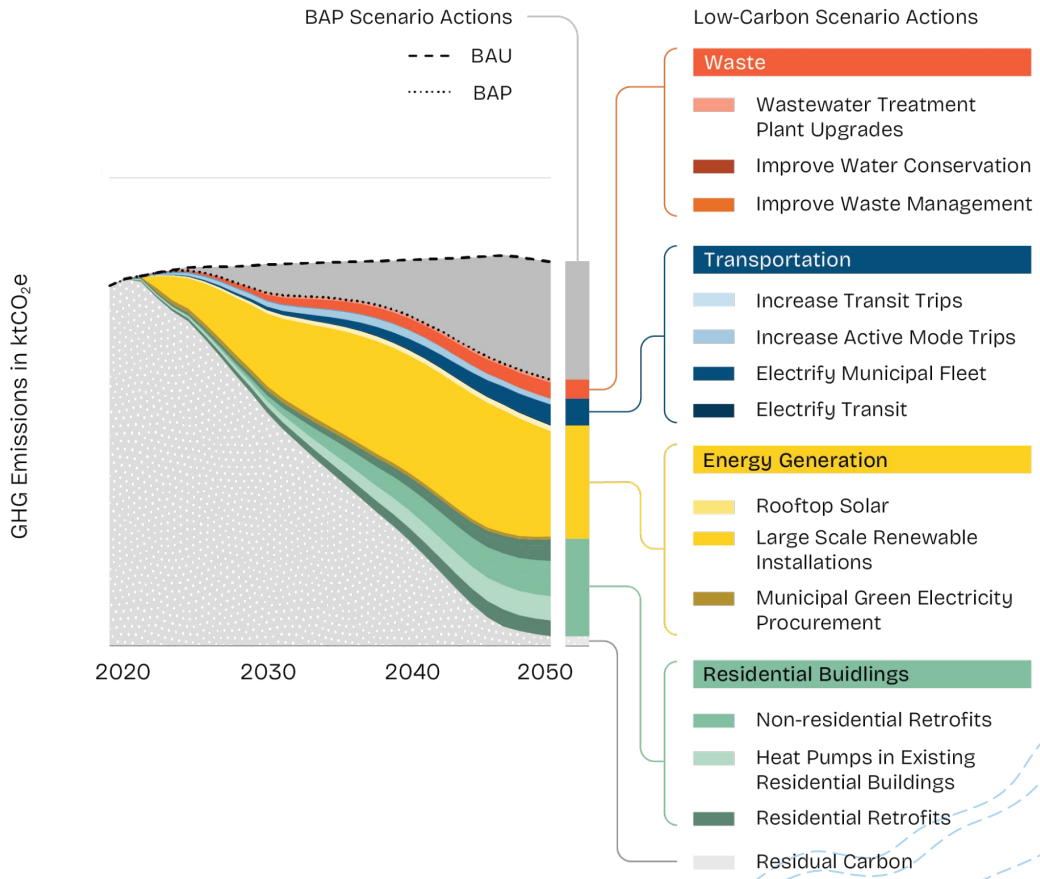
Questions or clarifications about the process or the engagement findings?

Add your questions to the chat or raise your hand.

Emission Reduction Scenarios

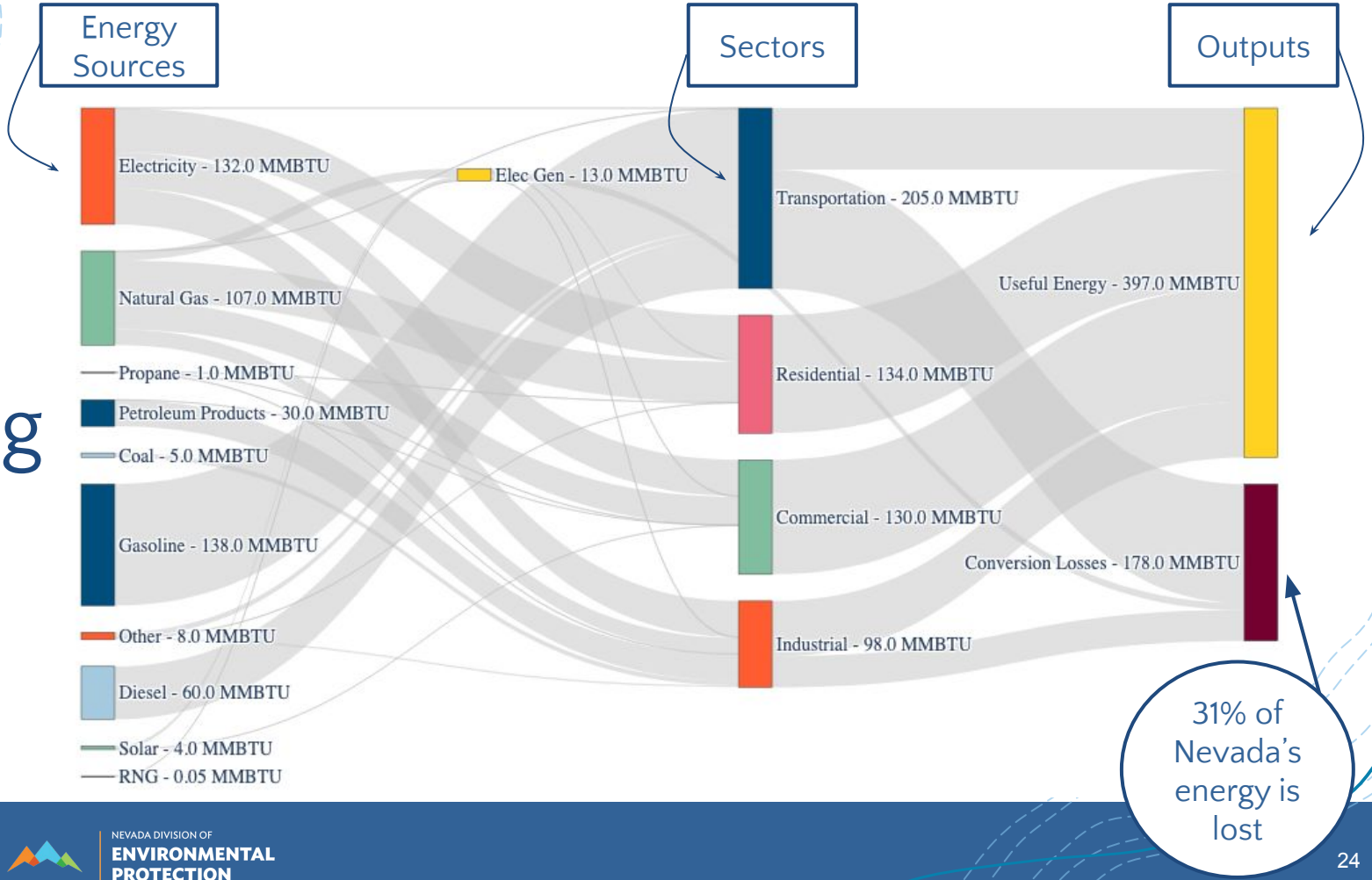
How To Build a Scenario

Colored wedges show the emission reduction potential of specific measures for each scenario.



Starting Point:

Nevada's Energy System (2021)



The Modeled Scenarios

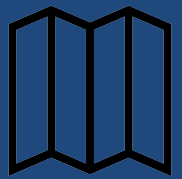
What would happen if…?

Low Carbon (LC)

- Accelerated clean grid
- Ambitious retrofits and building performance
- Net zero building code
- Transition to ZEVs
- Decarbonize industry

Mixed Fuels (MF)

- Actions are more aligned with State's current goals
- Fossil fuels stay longer
- Transition is less aggressive
- More hydrogen and RNG are in the mix

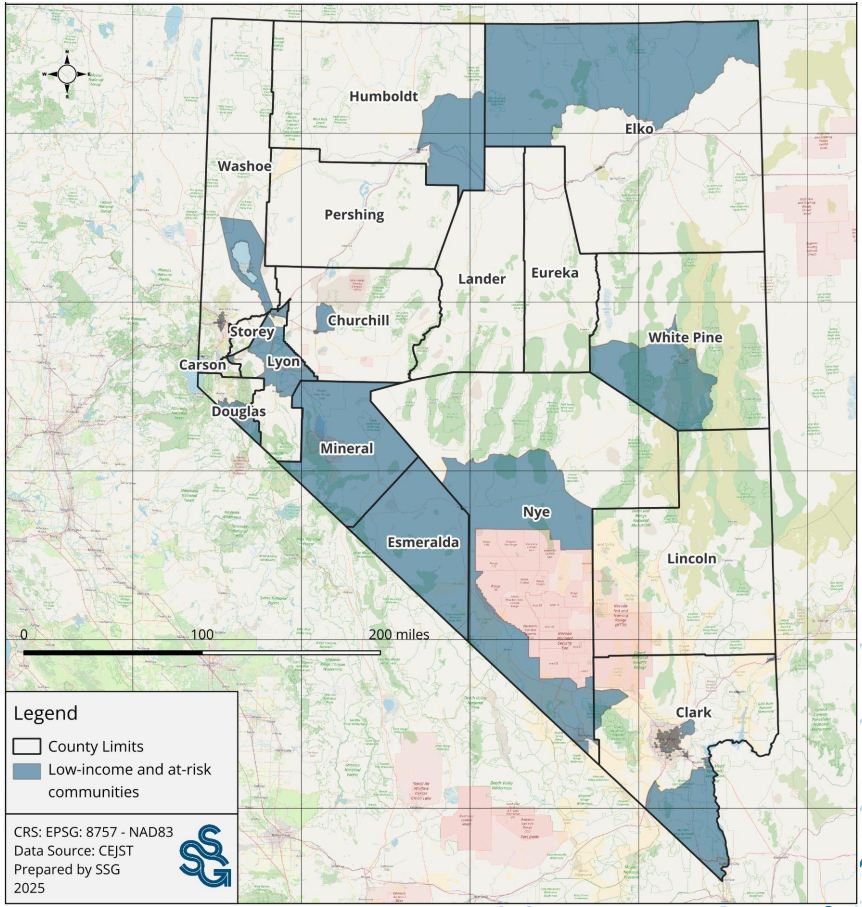


Community-Driven (CD)

- Actions are focused on low-income and at-risk areas first
- Accelerate distributing benefits to more people
- Robust active and public transportation

Low-Income Areas

In the Community Driven Scenario, actions are focused on prioritizing the most vulnerable and at-risk communities.



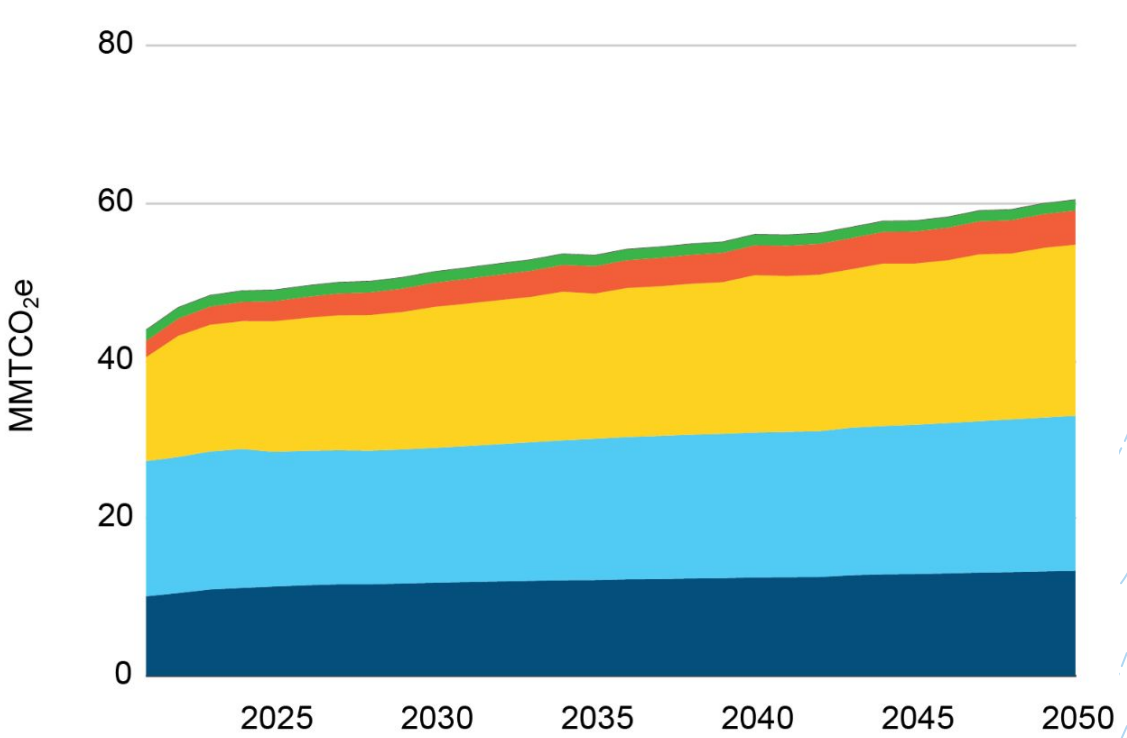
BAU

"Business-As-Usual"

Reference Scenario

Continuation of current trends including population growth and economic growth with no additional policies.

Under the BAU scenario, emissions are projected to rise 45% by 2050.

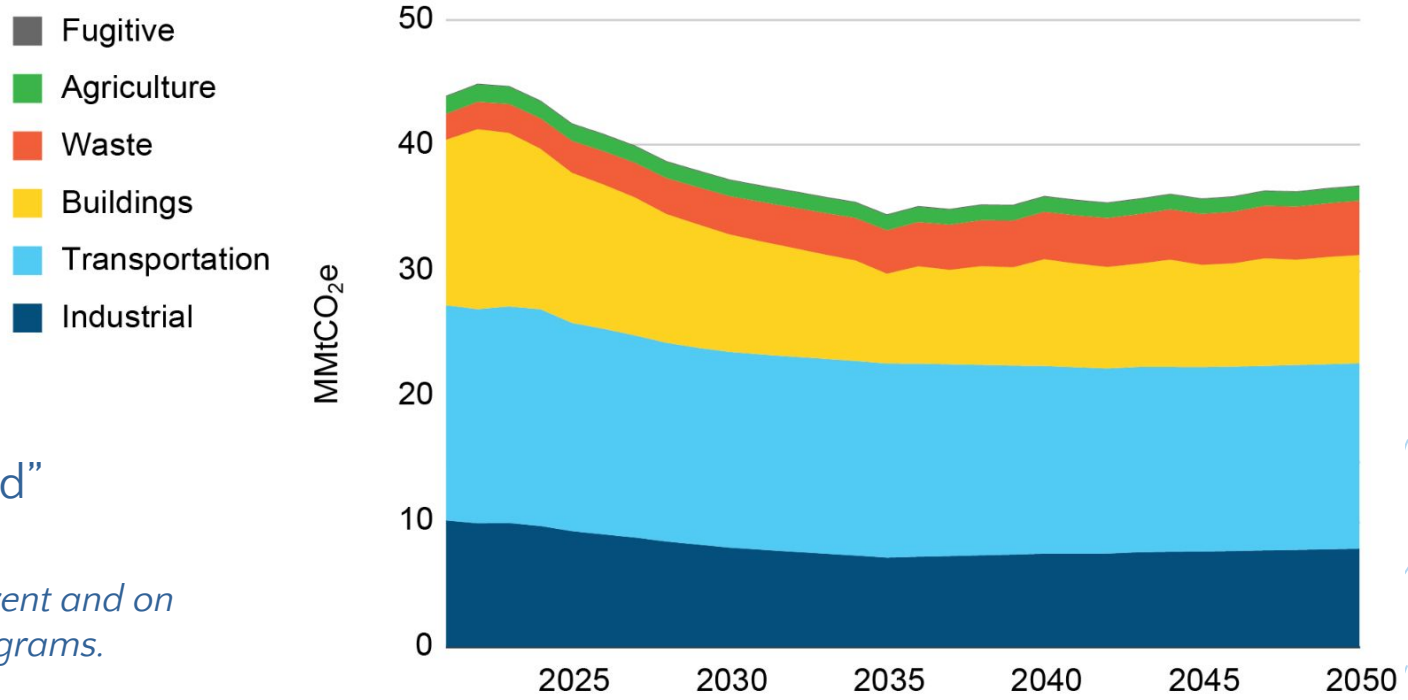


BAP

"Business-As-Planned"

Reference Scenario

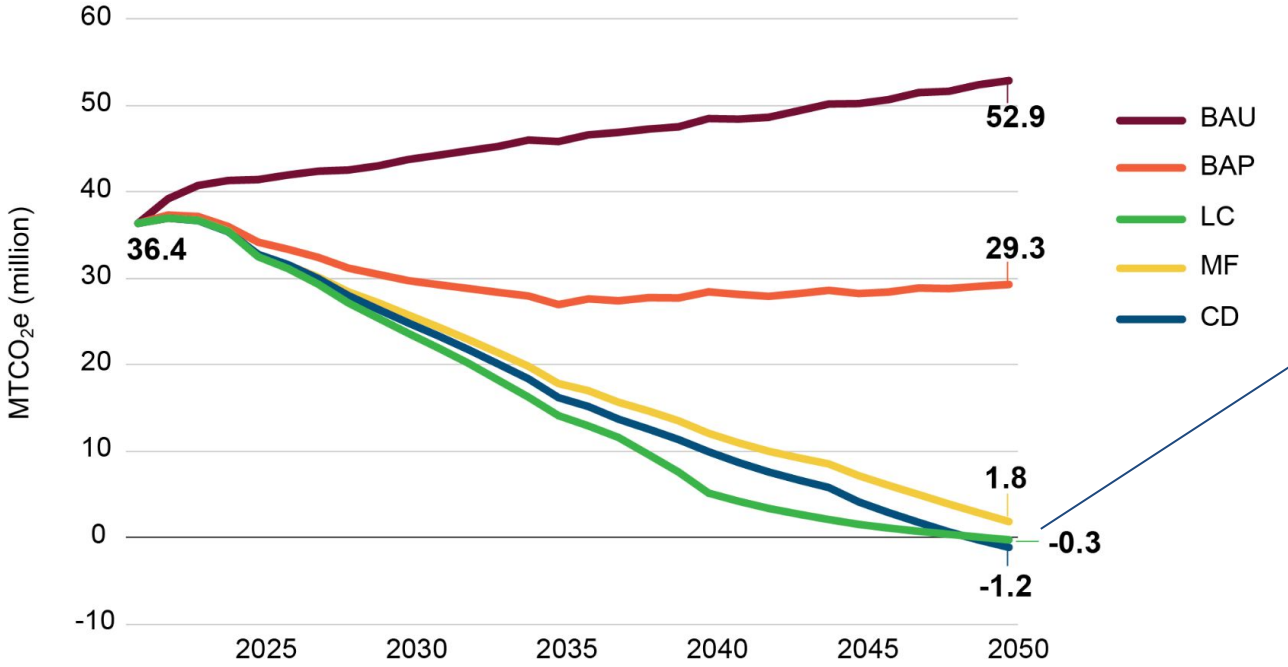
Full implementation of current and on the books policies and programs.



The BAP scenario projects a 20% decline in net emissions by 2050, driven by existing policies and planned investments such as renewable energy adoption, particularly in the building sector.

Scenario Comparison

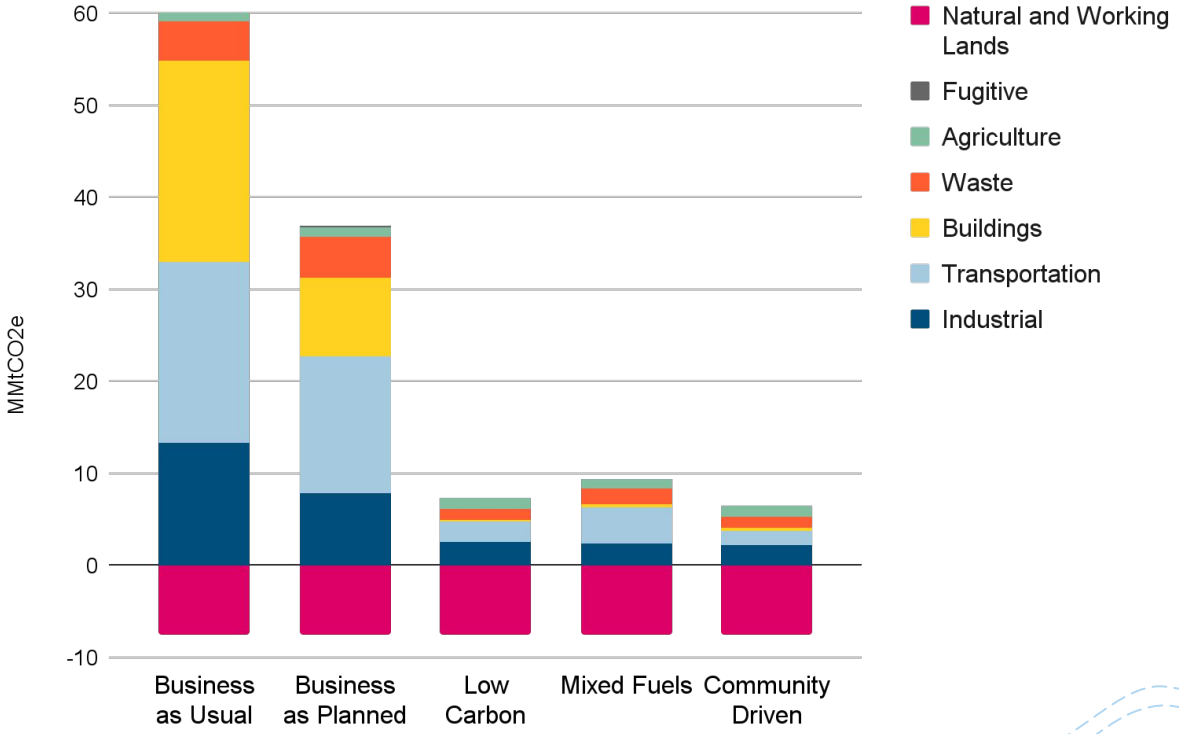
Total Net Emissions for Each Scenario



There are multiple pathways to zero emissions by 2050, or even earlier

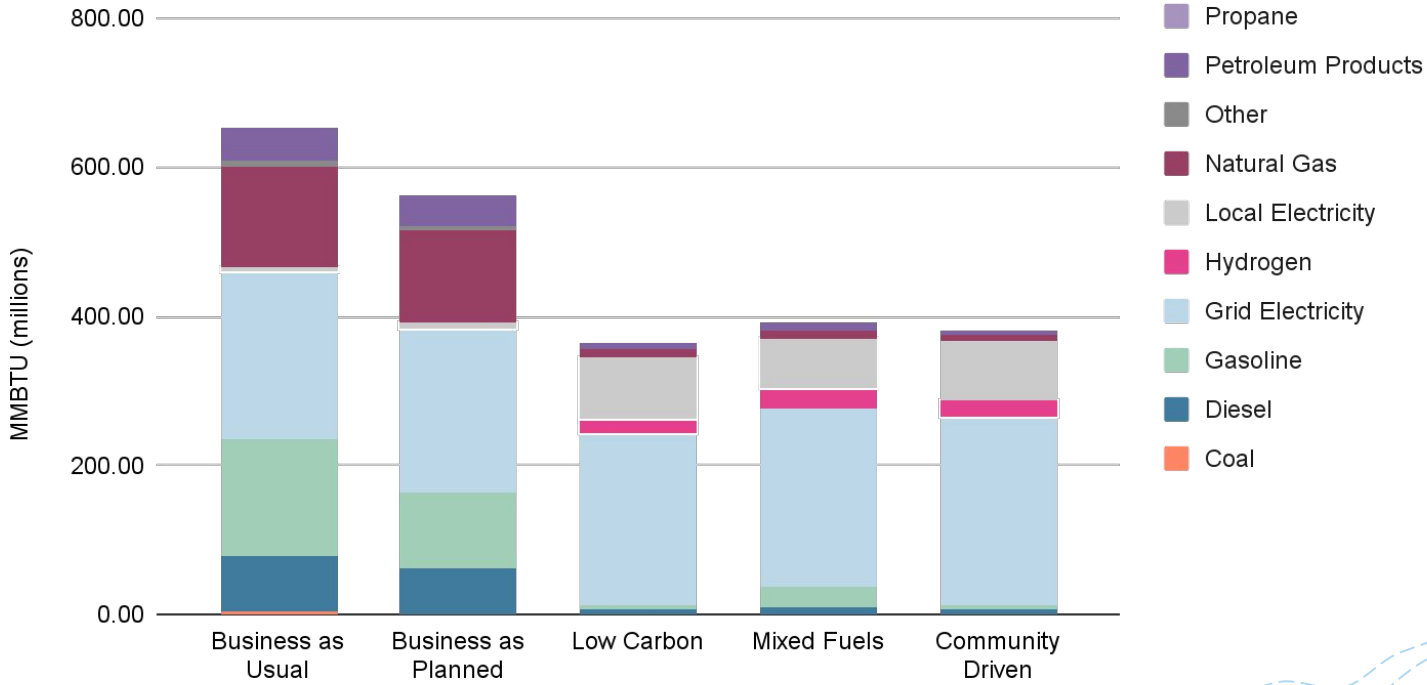
Scenario Comparison

Total Emissions for Each Scenario by Sector, 2050



Scenario Comparison

Total Energy for Each Scenario by Energy Source, 2050



Opportunity Areas

The CCAN scenarios identify eleven strategic "Opportunity Areas" that collectively address the key sources of emissions and define the structural changes needed to decarbonize Nevada.

Energy Systems

1. Power Nevada with Clean Energy

Buildings

2. Build Net-Zero New Buildings
3. Transform Existing Buildings

Transportation

4. Move with Active and Public Transit
5. Accelerate Adoption of Zero Emission Vehicles for All
6. Drive Sustainable Transport of Goods

Industry

7. Decarbonize Industry

Waste

8. Divert and Reuse Waste
9. Harness Landfill Gas

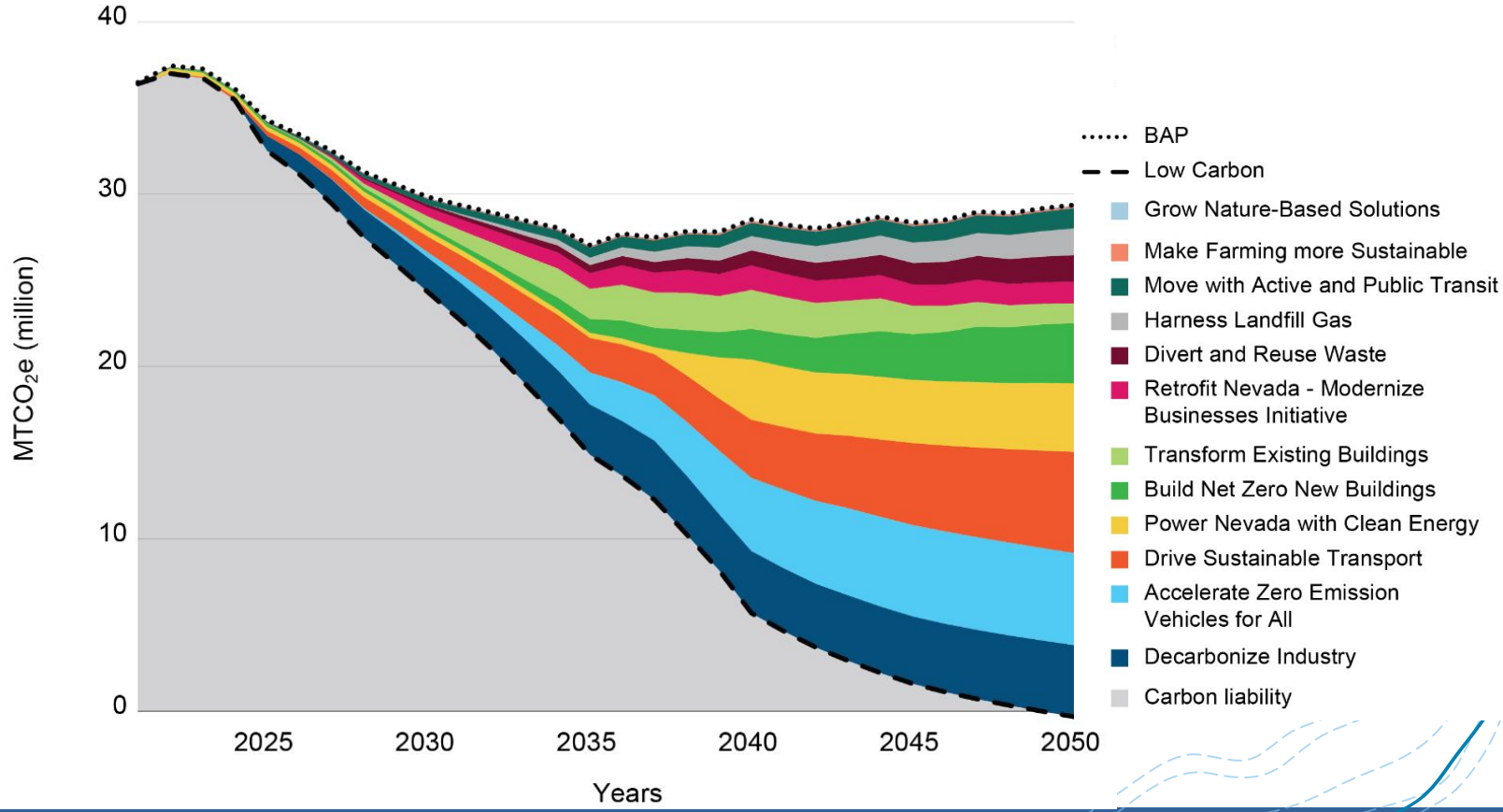
Agriculture

10. Make Farming More Sustainable

Natural and Working Lands

11. Grow Nature-Based Solutions

Low Carbon Scenario



Wedge Diagram

Feedback

Questions or clarifications about the process or findings?

Add your questions to the chat or raise your hand.

Menti: Did anything about these scenarios surprise you?

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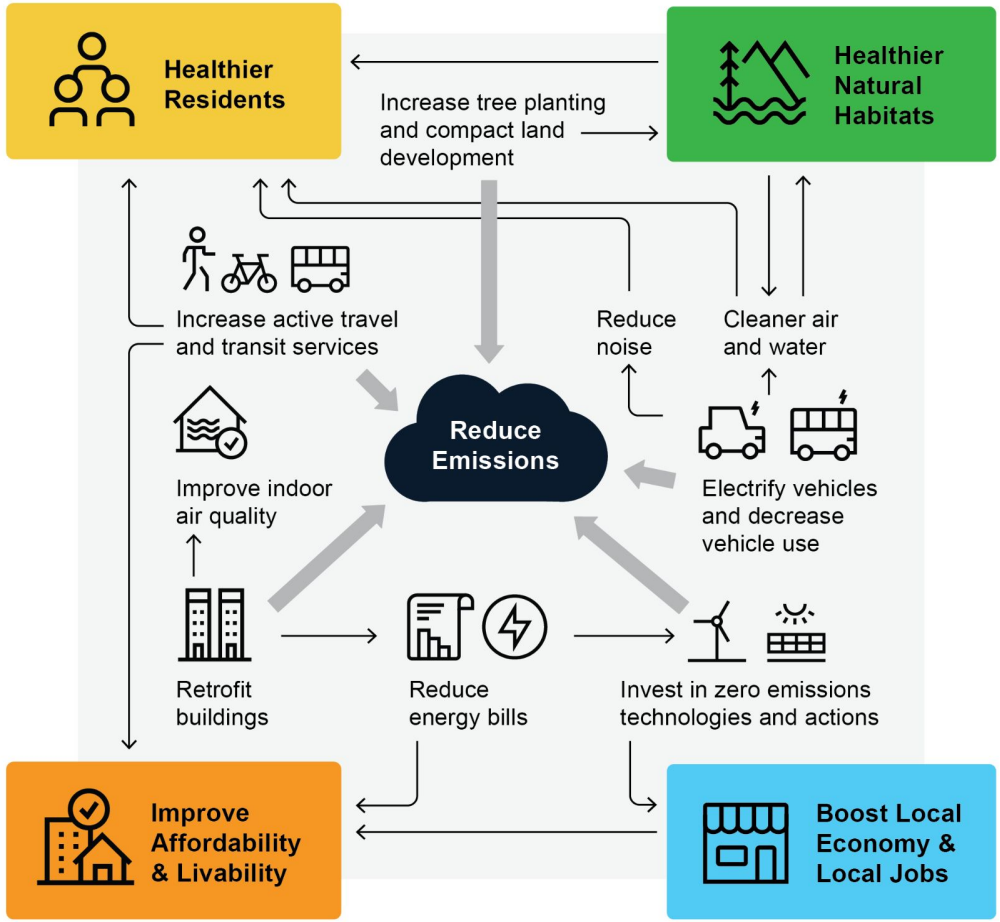
Benefits Analysis

Co-Benefits

Measures that can reduce emissions can also support healthier residents and natural habitats, boost local economies, create local jobs and improve affordability and livability.

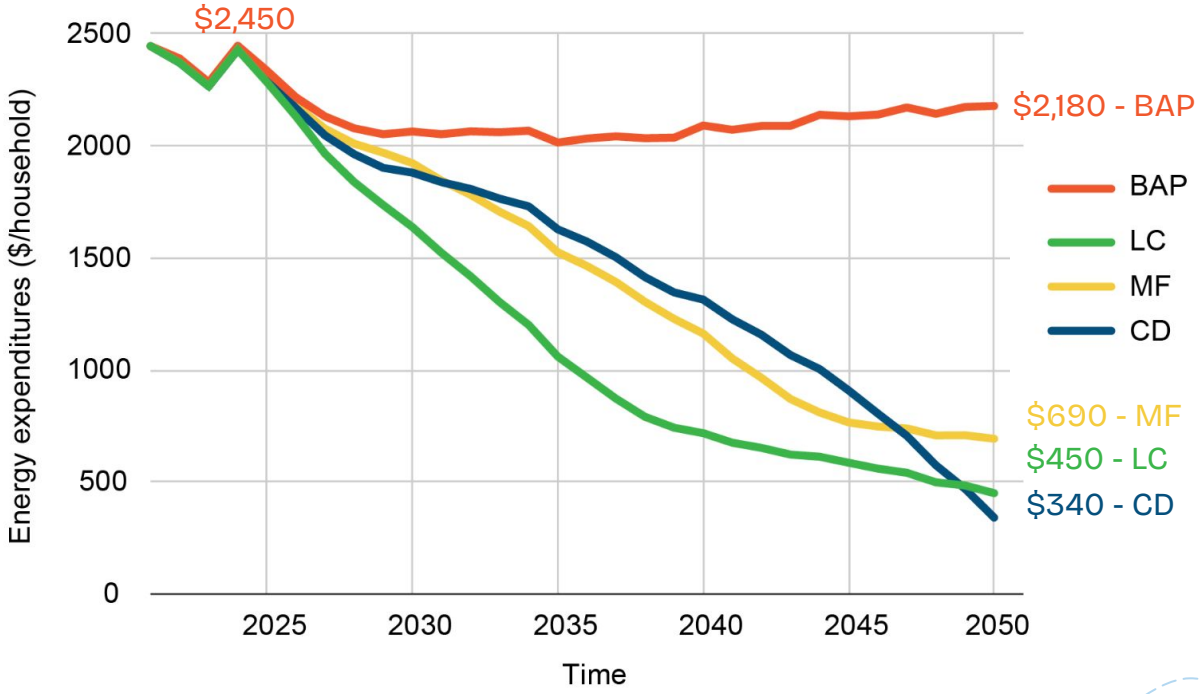


Energy Affordability

- A household faces a high energy burden when it spends more than 6% of its income on energy.
- Cost-effective energy efficiency measures, such as improving insulation and installing more efficient appliances, have the potential to reduce energy use by 13-31%.
- Transit-oriented urban development can reduce per capita use of automobiles by 50%, reducing household transport expenditures by 20%.

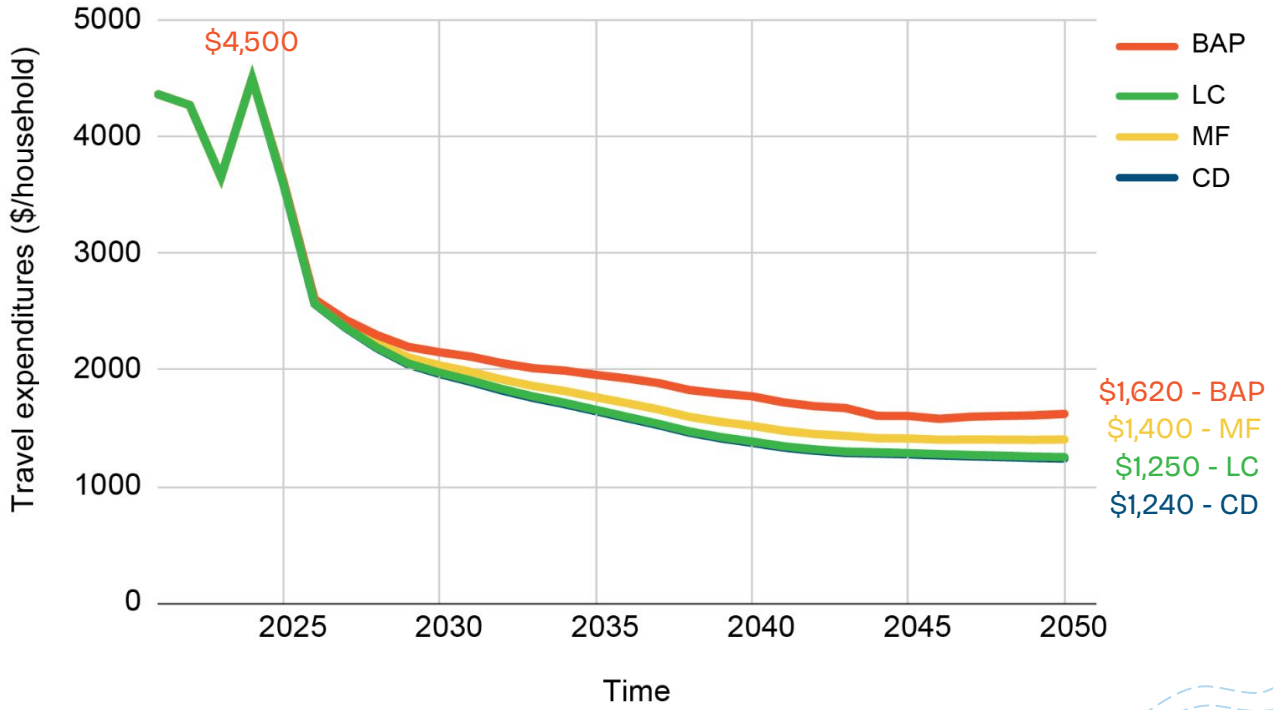
Household Spending

Average annual spending on stationary energy in each scenario (2021 – 2050)



Household Spending

Average annual spending on energy for travel in each scenario (2021 – 2050)



Employment Impacts

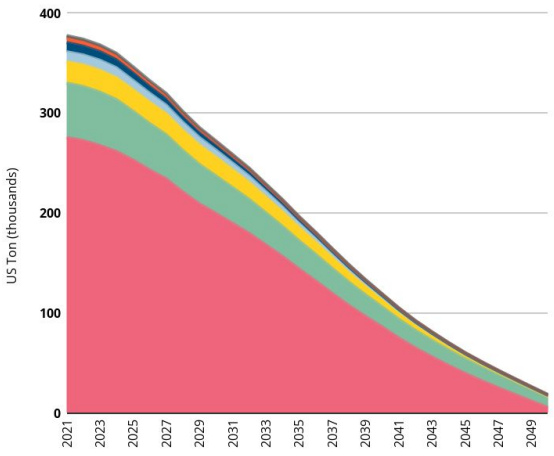
The average annual years of employment, relative to Business-as-Planned was calculated in each scenario:

- Under the **Low Carbon Scenario**, 19,000 jobs are projected per year between 2026 - 2050, the most jobs out of all three scenarios
- Under each scenario, the most jobs fall under Opportunity Area: Transform Existing Buildings followed by the Opportunity Area: Decarbonize Industry
- Opportunity Areas such as Power Nevada with Clean Energy and Move with Active and Public Transit will create the most jobs in the **Community Driven Scenario**

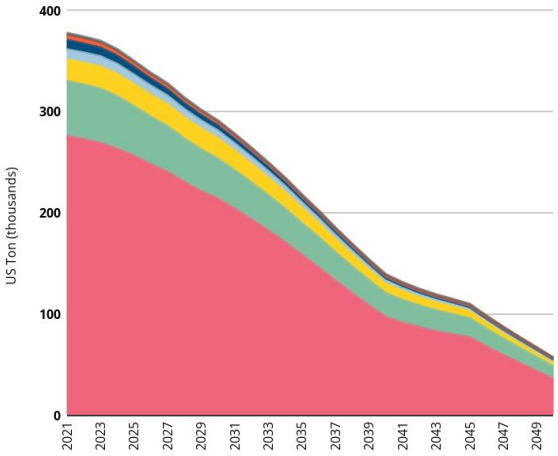
Co-Pollutant Reductions

Comparing Scenarios

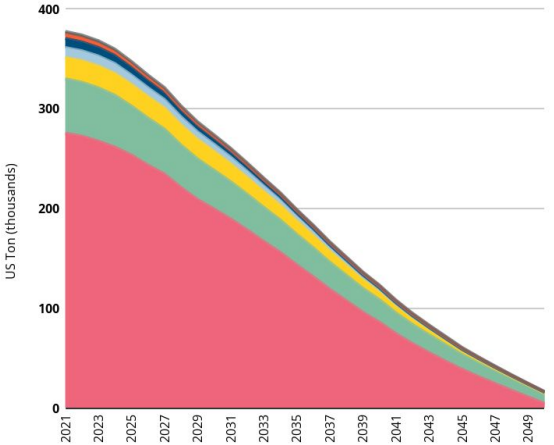
LC



MF



CD



Nearly identical pollutant reductions would be achieved in the LC and CD scenarios.

Q+A

Questions or clarifications?
Add your questions to the chat or raise your hand.

Menti: What co-benefits are you most excited about?

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Financial Analysis

Concepts & Definitions

Financial Analysis

All costs are relative to the Business-As-Planned (BAP) Scenario

The economic analysis tracks projected costs and savings associated with low-carbon measures above and beyond the costs in the BAP Scenario.

4 aggregated categories for financial performance of low-carbon measures:

1. Capital Expenditure
2. Energy Savings (or Costs)
3. Operation and Maintenance Savings (O&M)
4. Revenue Generation

Concepts & Definitions

Financial Analysis

Net Present Value (NPV)

The net present value (NPV) of an investment is **the difference between the present value of the capital investment and the present value of the future stream of savings and revenue generated** by the investment.

A negative NPV means an investment is expected to generate more value than it costs.

A positive NPV means that a project generates more costs than value.

Concepts & Definitions

Financial Analysis

Discount Rate

The rate at which future costs and benefits are reduced in comparison to current costs and benefits, reflecting the value society places on benefits or costs in the future relative to benefits or costs today.

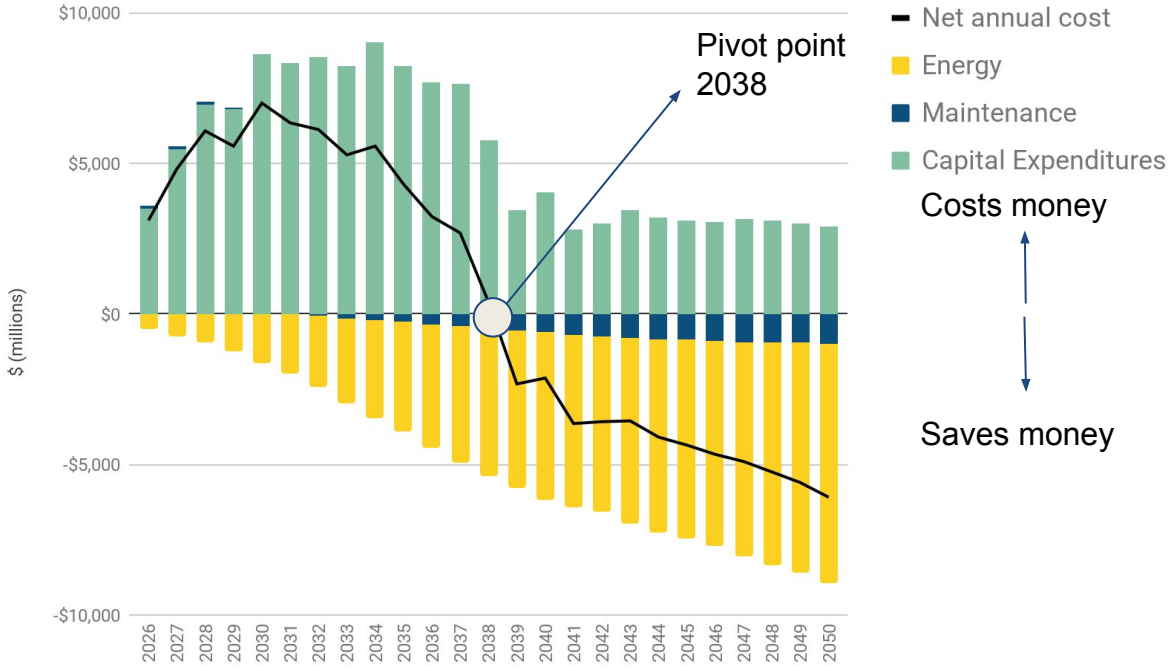
A higher discount rate means that future effects are much less significant than present effects.

A lower discount rate means that effects are closer to being equally significant.

The social discount rate applied in this analysis is 3%.

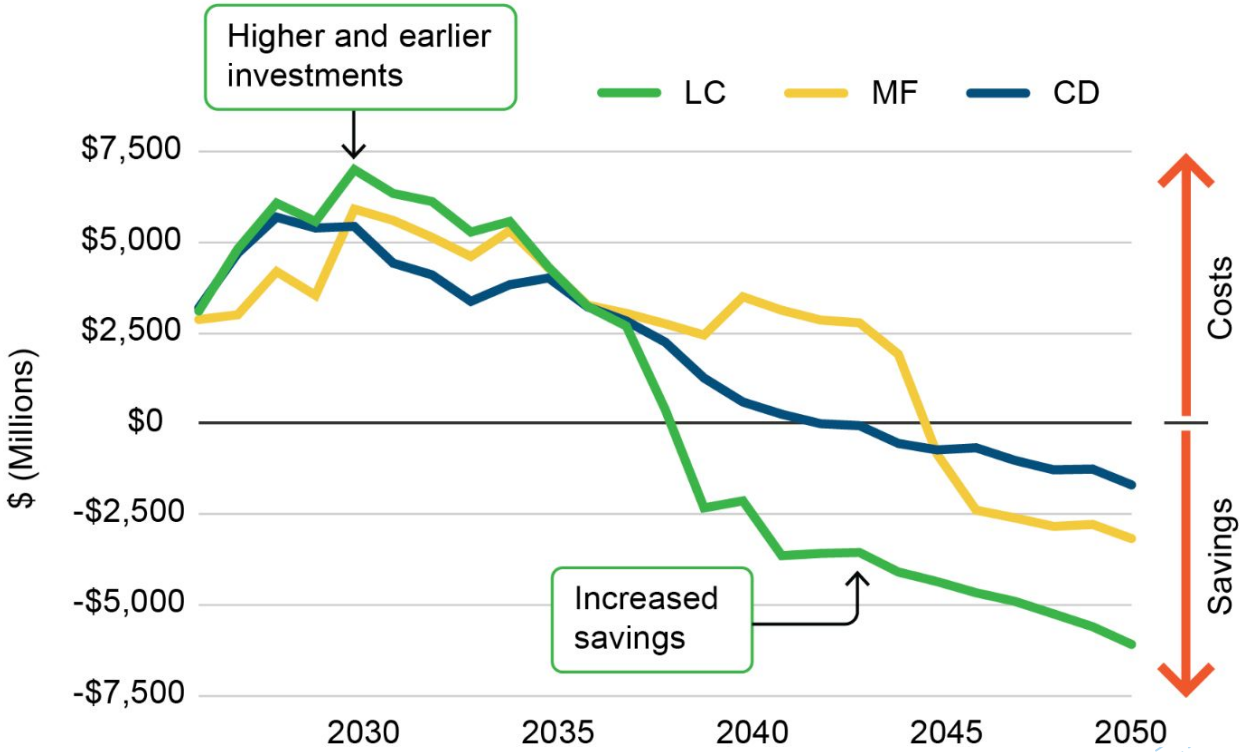
Net Annual Cost or Savings

Annual Investment and Savings in the LC Scenario (2026-2050)



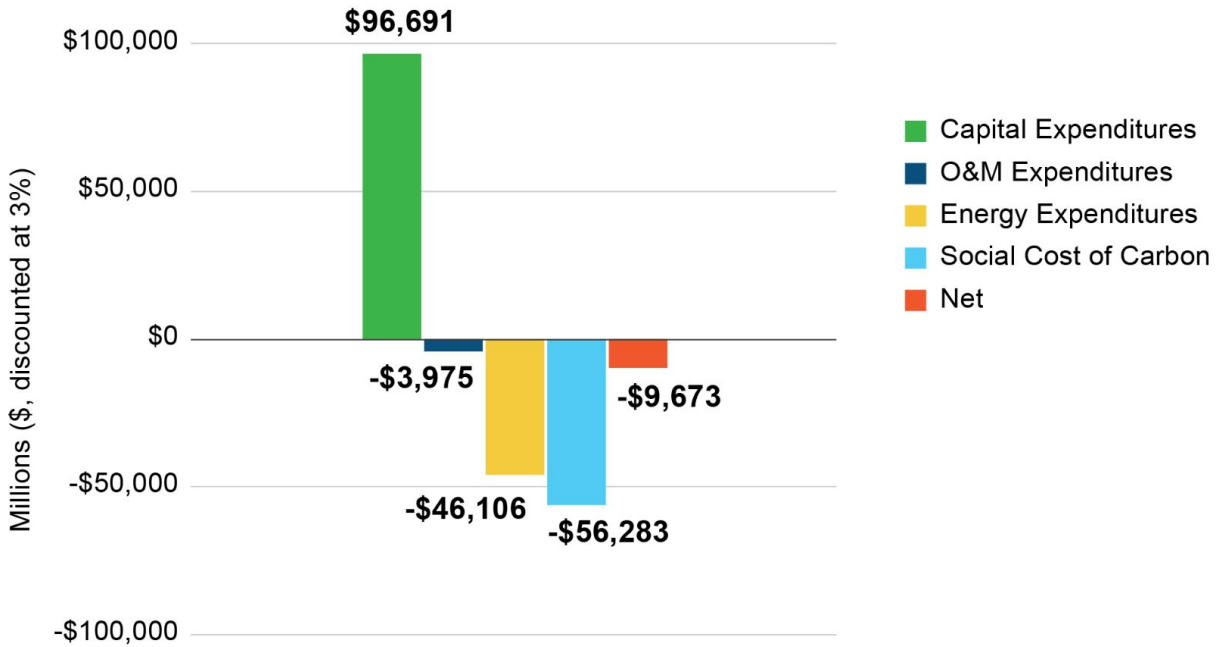
Net Annual Cost or Savings

Comparison of Low Carbon (LC) Mixed Fuels (MF) and Community Driven (CD) Scenarios



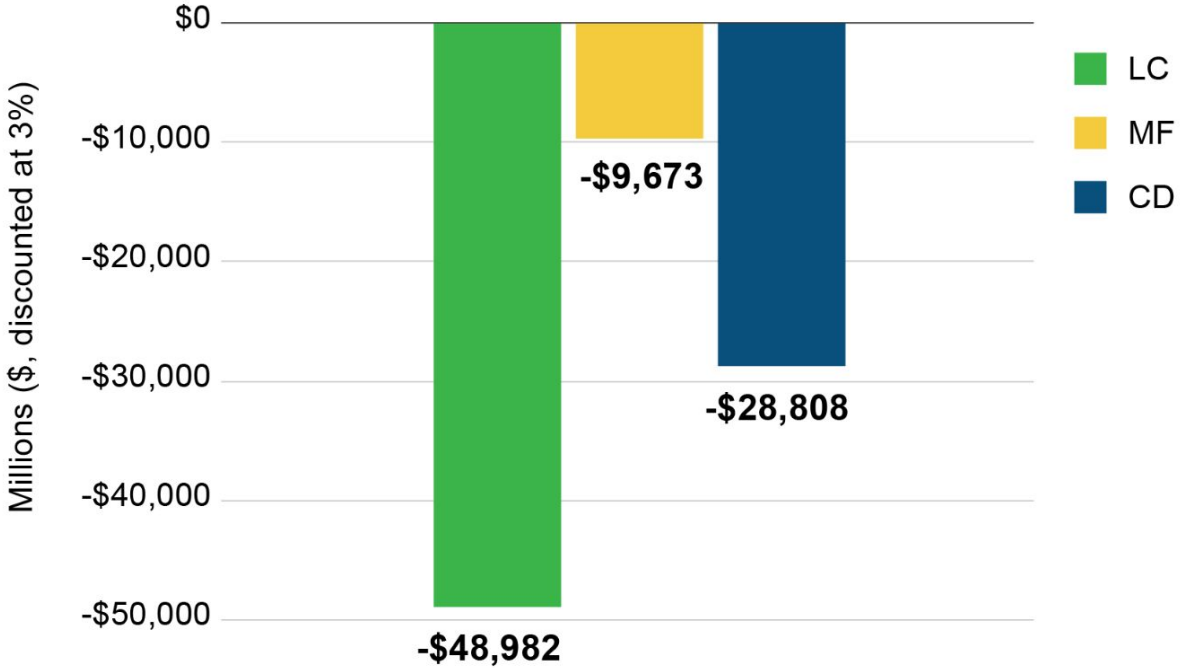
Cumulative Costs and Savings

Low Carbon Scenario Present Value (3% discounting rate, 2026-2050)



Cumulative Costs and Savings

Present Value in All Scenarios (3% discounting rate, 2026–2050)



Q+A

Questions or clarifications?

Add your questions to the chat or raise your hand.

Menti: What do these findings tell you about the financial case for climate action?

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Sector Highlights

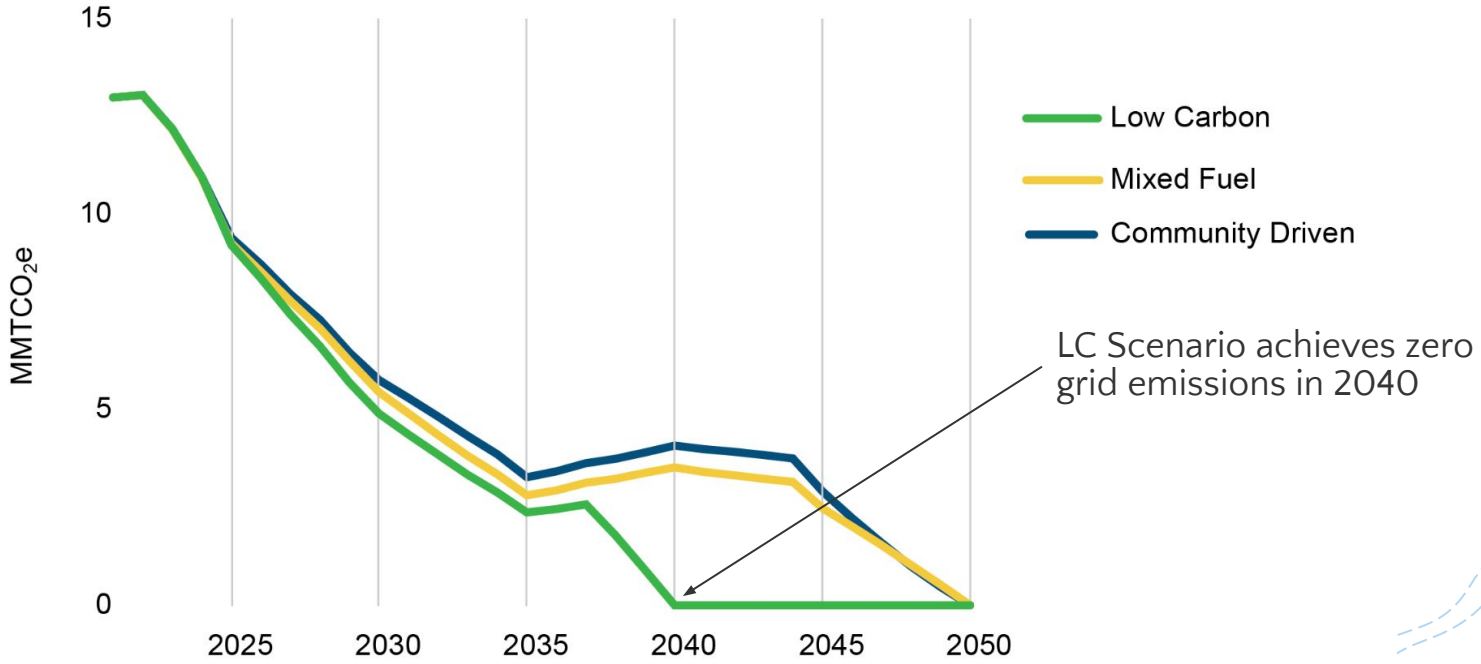
Energy

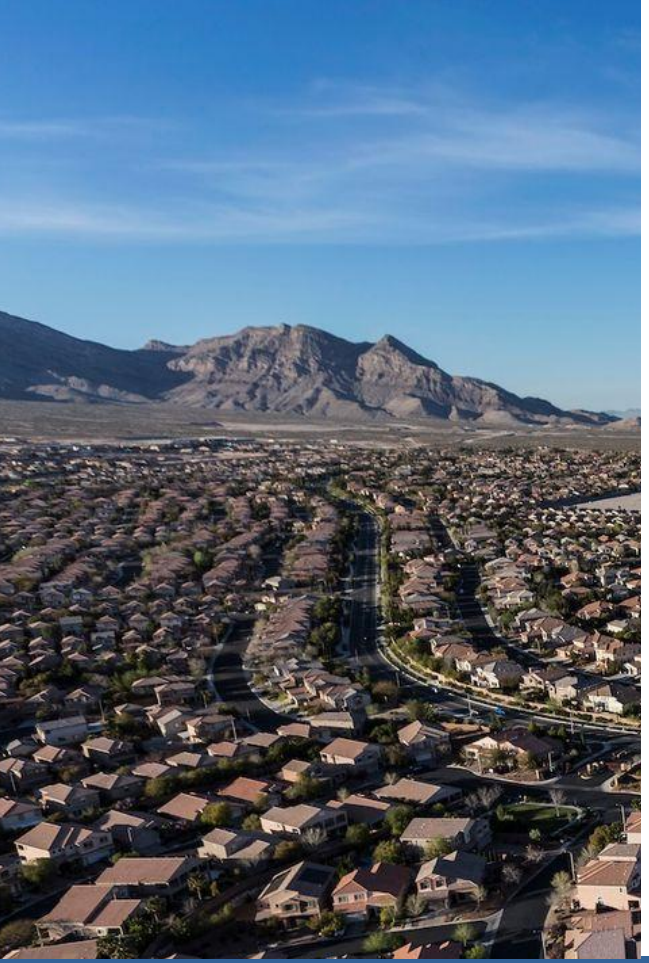
Opportunity Area & Measures

Power Nevada with Clean Energy	Paths to a Clean, Renewable, Reliable, and Resilient Grid for Nevada
	Expand Residential Solar Access and Affordability with Financing and Technical Support Programs
	Adopt Initiatives Supporting Community Solar and Renewable Co-ops
	Scale Up Solar Installation in Commercial Sector with Financing and Technical Support Programs

Comparison of Scenarios

GHG emissions from electricity consumption for all CCAN Scenarios, 2021-2050





Buildings

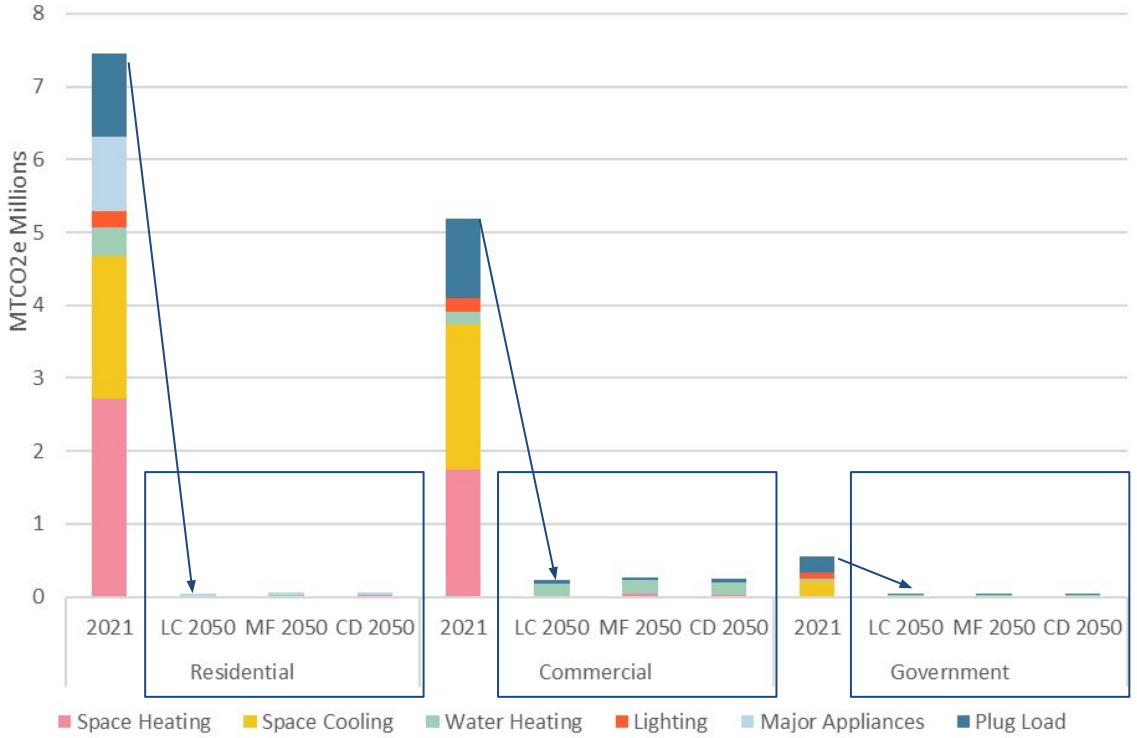
Opportunity Areas & Measures

Build Net Zero New Buildings	Strengthen Building Energy Conservation Codes
	Adopt Net-Zero Ready Standards for All New Buildings
	Invest in Zero-Emission Affordable Housing Options
Transform Existing Buildings	Establish Building Performance Standards for Existing Large Buildings
	Retrofit Nevada - Modernize Homes Initiative
	Retrofit Nevada - Modernize Businesses Initiative
	Incentivize and Require Heat Pumps for Heating and Cooling in Residential Buildings
	Incentivize and Require Heat Pumps for Heating and Cooling in Commercial Buildings

Comparing Scenarios

Total Building Emissions by Sector by End-Use

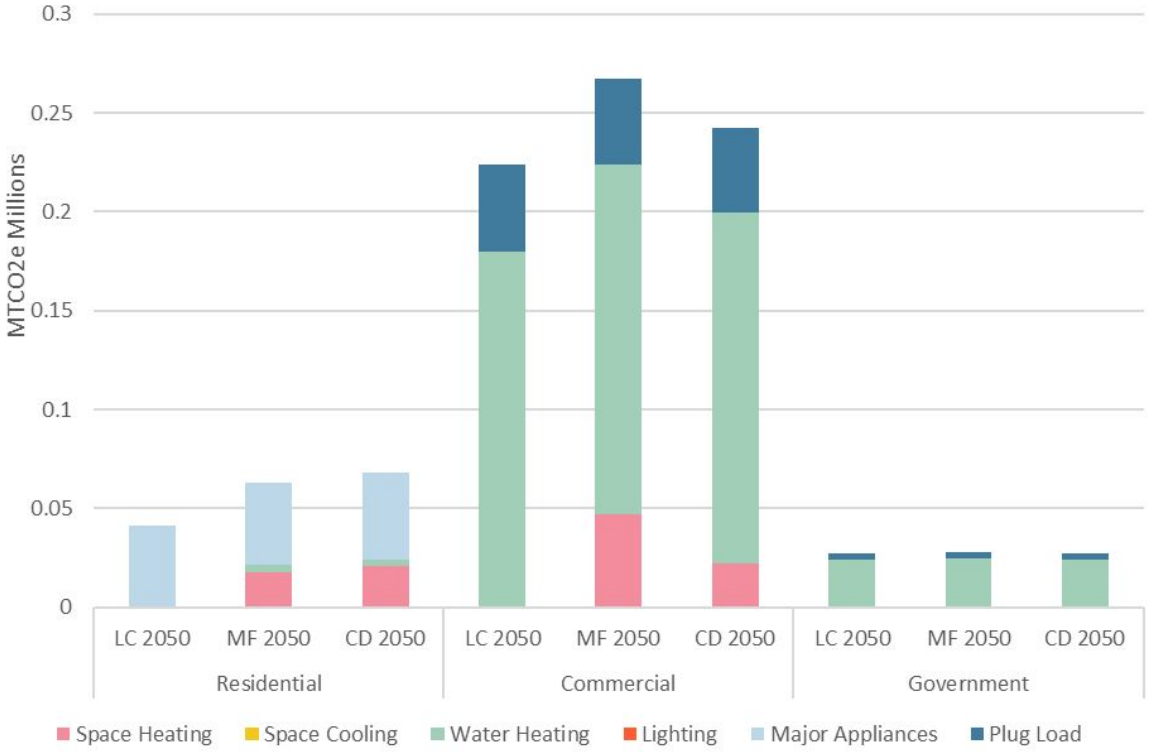
Aggressive measures to electrify buildings and clean up the grid reduce building emissions.



Comparing Scenarios

Total Building Emissions by Sector by End-Use

Heat pumps are the driving force in emission reduction in the building sectors.



Transportation

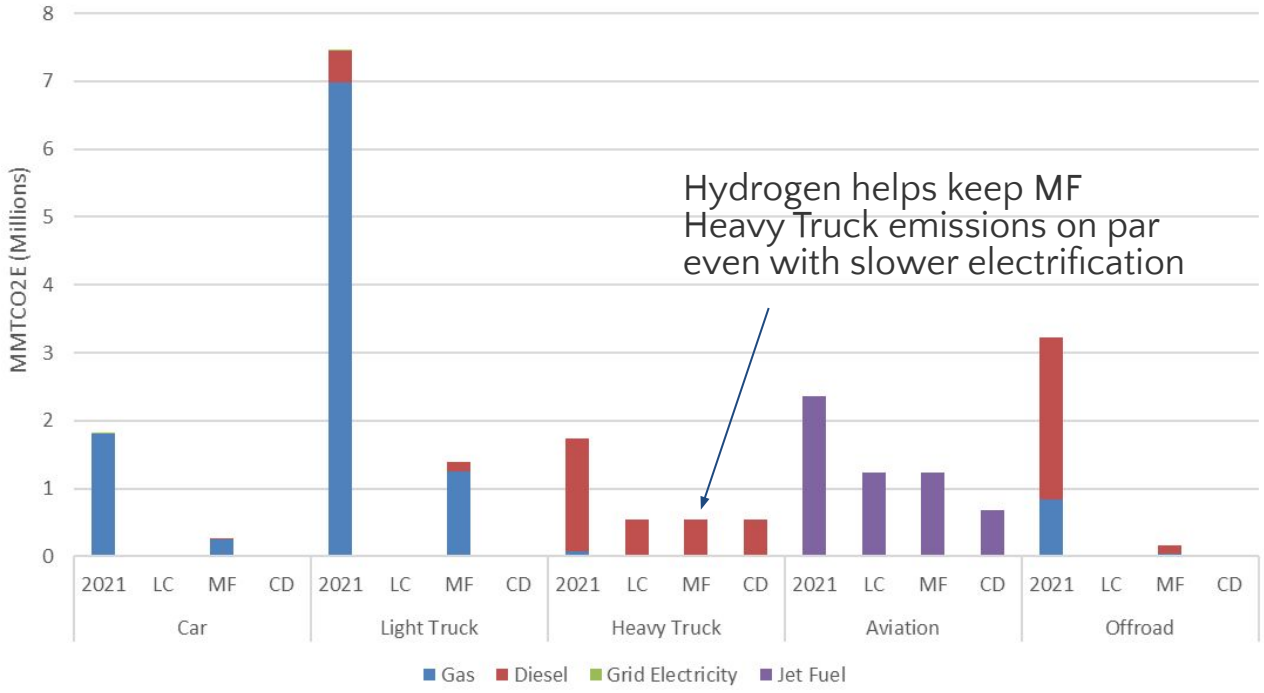
Opportunity Areas & Measures

ZEV = Zero Emission Vehicle

Move with Active and Public Transit	Build Public Transit and Active Transportation Networks for Everyone
Accelerate Adoption of Zero Emission Vehicles for All	Launch ZEV for NV, an initiative to increase personal use ZEVs
	Establish Lead the Charge, an Electrifying Public Fleets Assistance Program
	Deploy Community-Based Electric Car Sharing Programs
Drive Sustainable Transport of Goods	Incentivize and Require the Clean Commercial Fleet Transition
	Adopt Power Up Clean Worksites, an initiative to transition Off-Road Equipment to ZEVs
	Fuel Sustainable Skies Program
	Propel Marine Vessels to use Low- and Zero-Emission Fuels

Comparing Scenarios

Total Transportation Emissions by Vehicle Type



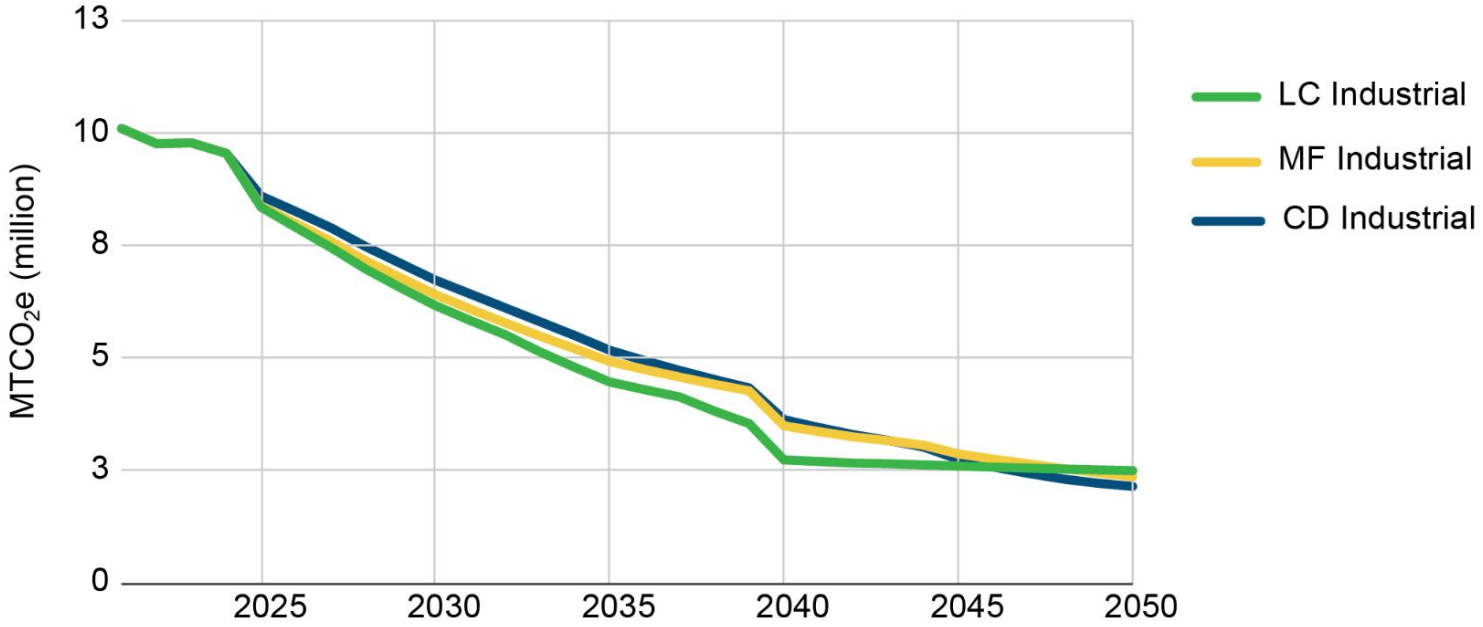
Industry

Opportunity Area & Measures

Decarbonize Industry	Maximize Industrial Energy Efficiency
	Accelerate Deployment of Green Hydrogen for Industrial Decarbonization
	Electrify Industrial Processes and Integrate On-Site Renewables
	Support Industrial Carbon Capture, Utilization, and Storage (CCUS) Solutions

Comparing Scenarios

GHG emissions in the Industrial Sector by Scenario

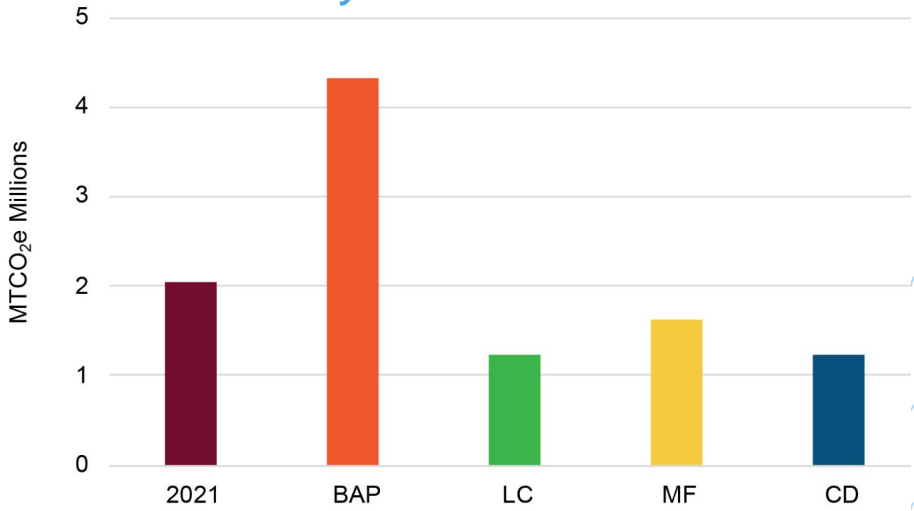


Waste

Opportunity Areas & Measures

Divert and Reuse Waste	Expand recycling, composting, and sustainable materials management programs
Harness Landfill Gas	Develop and Fund Landfill Gas Capture and Utilization Systems

Waste Emissions by Scenario



Agriculture

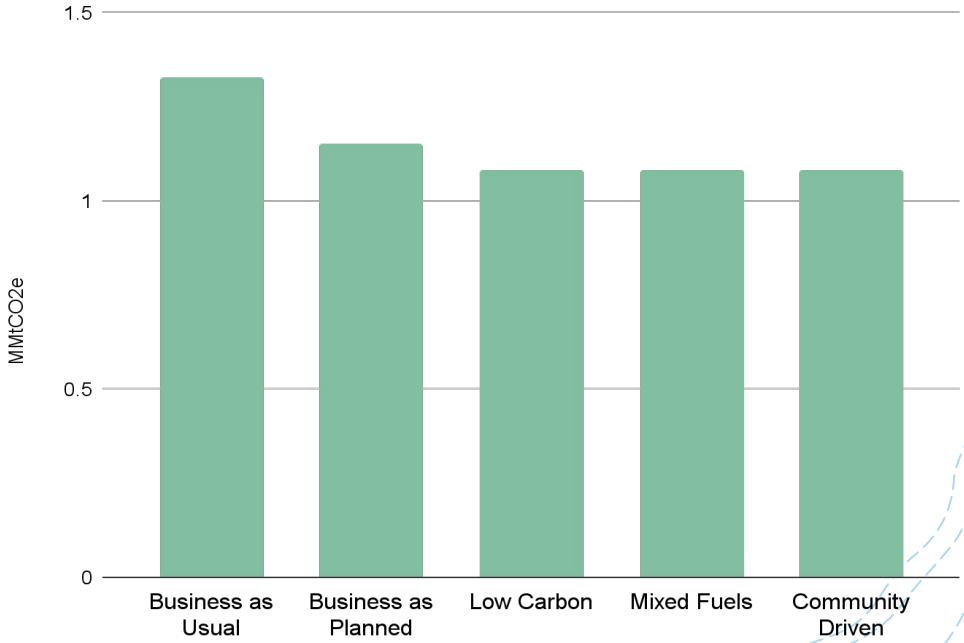
Opportunity Area & Measures

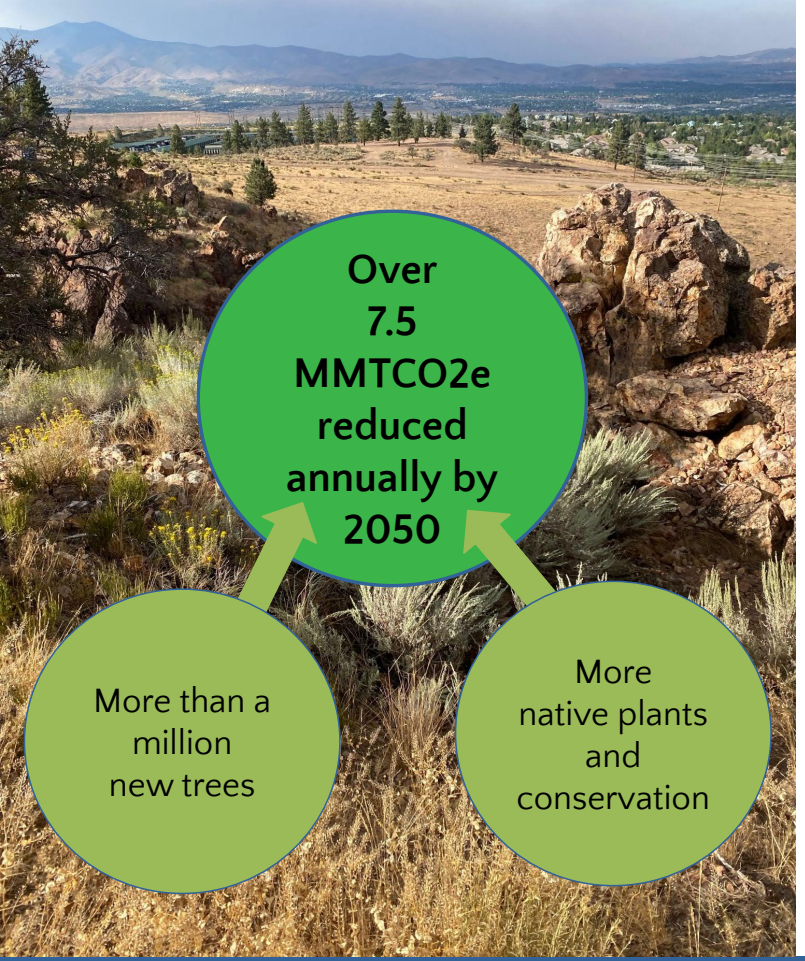
Make Farming more Sustainable

- Grow Regenerative Agriculture Practices in Nevada
- Improve Grazing Management and Rangeland Resilience

While reductions are modest relative to other sectors, agriculture remains a key area for co-benefits such as improved soil health, water retention, and rural economic resilience.

Agriculture Emissions by Scenario





Natural and Working Lands

Opportunity Area & Measures

Grow Nature-Based Solutions

- Expand Urban and Community Tree Canopy Coverage Across Nevada
- Protect and Restore Natural Lands Initiative

Q+A

Questions or clarifications?

Add your questions to the chat or raise your hand.

Feedback

Which opportunity areas are you most excited about?

Do you think anything is missing?

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and enter code 7527 1865

Closing

Remaining Engagement

Open Public Comment Period

- September 8th – October 10th

Final CCAN

- Submission to EPA by December 1, 2025
- Final CCAN Presentation in November

Comment Submissions

Open comments can be submitted until **October 10th**.

Please submit comments at link in chat.

Thank You

Website:
ndep.nv.gov/air/climate-pollution-reduction-grant

Email: ndep.cprg@ndep.nv.gov

Feedback

Link in chat to share additional information and provide feedback about this session.