NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

Nevada Department of CONSERVATION & NATURAL RESOURCES

Priority Climate Action Plan

Community Action Workshop

Las Vegas - January 10
Reno - January 16

Presented by

Nevada Division of Environmental Protection
Sustainability Solutions Group
Ericka Aviles Consulting LLC

Welcome

What would make this meeting meaningful for you?

- Learn something, become more informed.
- Talk about near term action.
- Understand goals for PCAP and funding applications.
- “A baseline of ideas to react to, while leaving an opening for new ideas”.
- Digital copy of the presentation.
- Consideration of long-term goals.
- Good quality conversation among interested parties.
- Hearing other ideas and projects.

Purpose

- Share information about CPRG process.
- Provide an update on analysis and key project areas identified so far.
- Gather perspectives to help refine and strengthen projects to be listed in the Priority Climate Action Plan (PCAP).

Agenda

1. Welcome and introductions
2. Purpose
3. Overview of agenda
4. Housekeeping items
5. Presentations and participant group discussions, comments, and questions, organized by key sector for climate action:
    a. Transportation
    b. Buildings
    c. Energy Generation, Waste, Industry, Carbon Sequestration

Shared Purpose

Pairs Discussion

What is the most essential or pressing topic of discussion for you during this workshop?

- Online - automatically sent into a pairs discussion
- In person - turn to your neighbour
- Listen to the other person uninterrupted until they finish, up to 1 minute.
- Take notes for each other and put them into Menti (or post-its or zoom chat)

CPRG Climate Action Planning Overview

U.S. EPA Climate Pollution Reduction Grant Program (CPRG)

Description

The U.S. Environmental Protection Agency's (EPA) Climate Pollution Reduction Grants (CPRG) program provides federal grants to develop and implement plans for reducing greenhouse gas emissions and other harmful air pollution.

The Nevada Division of Environmental Protection (NDEP) has received $3 million in funding for the planning phase of the CPRG, which includes the preparation of three reports: the Priority Climate Action Plan (due March, 2024), the Comprehensive Climate Action Plan (2025), and the Final Report (2027.)

U.S. EPA Climate Pollution Reduction Grant Program (CPRG)

Goals

The goals of the Climate Action Plans are to:

- Improve understanding of statewide greenhouse gas emission sources
- Improve projections of statewide greenhouse gas emissions
- Reduce greenhouse gas emissions statewide over time and in accordance with reduction targets' goal through implementation
- Increase climate resilience
- Improve air quality, especially in low-income and historically disadvantaged communities
- Improve health benefits, especially in low-income and historically disadvantaged communities
- Create high-quality jobs
- Enhance community engagement

Priority Climate Action Plan (PCAP)
Part of the Climate Pollution Reduction Grant (CPRG)

The intent of the PCAP is to identify near-term and implementation-ready strategies, initiatives, and other projects that aim to reduce emissions of greenhouse gases and other pollutants.

Nevada's completion of the CPRG PCAP, in March 2024, will unlock $4.6 billion* in federal grants awarded by the EPA to fund implementation of select CPRG projects (CPRG Phase 2).

Tier	Grant Ranges	Funds Targeted for Each Tier	Anticipated Number of Grants to be Awarded
Tier A	$200,000,000 – $500,000,000	$2 billion	4-10
Tier B	$100,000,000 – $199,999,999	$1.3 billion	6-13
Tier C	$50,000,000 – $99,999,999	$0.6 billion	6-12
Tier D	$10,000,000 – $49,999,999	$0.3 billion	6-30
Tier E	$2,000,000 – $9,999,999	$0.1 billion	10-50

*Nationally available funds granted via a competitive process

Proposed Project Prioritization

Climate Pollution Reduction Grant's Phase 2 Criteria

EPA Criteria (in summary)

- Impact on emissions reduction
- Demonstration of funding need
- Benefit to low income, disadvantaged communities
- Environmental benefits
- Transformative
- Job quality

State and emissions overview

Context review

- Demographics
- Low-Income, Disadvantaged Communities
- Greenhouse gas emissions
- Economy and Industry
- Buildings
- Transport
- Electricity

Demographic Summary

2021 census data

Population Context

- Population of 3.1 million
- Clark and Washoe counties are most dense.
- 16 counties and one independent city (Carson City)
- Nearly 87% of land is publicly owned by the federal government

Washoe County:
479,758

Clark County:
2,231,147

Low-Income, Disadvantaged Communities Analysis

Key takeaways from US EPA Climate and Economic Justice Screening Tool

Primary statewide concerns

- Wildfire risk
- Air quality issues: exposure to diesel particulate matter
- Areas with high impervious surface cover/ cropland
- Wastewater discharge issues
- Legacy pollution from industry, military, etc. (to a lesser extent)

Washoe County and Clark County have the highest populations as well as a high number of disadvantaged geographic areas.

Low-Income, Disadvantaged Communities Analysis

Key takeaways from US EPA Climate and Economic Justice Screening Tool

Washoe County / Reno-Sparks

- Second most populous county in the state
- Presence of formerly used defense sites
- Critical service gaps: lack of access to **broadband internet, housing burden, transportation access, and food deserts**

Many places in Washoe County contain Justice40 CEJST disadvantaged communities, EPA IRA disadvantaged communities, as well as American Indian Reservation Lands.

Low-Income, Disadvantaged Communities Analysis

Key takeaways from US EPA Climate and Economic Justice Screening Tool

Clark County: most populous county in the state

- Environmental hazards: Brownfields; air pollution sites; and hazardous waste facilities
- Critical service gaps: lack of access to **broadband internet, housing burden, transportation access, and food desert**

Many places in Clark County contain Justice40 CEJST disadvantaged communities, EPA IRA disadvantaged communities, as well as American Indian Reservation Lands.

Nevada Tribes

Key takeaways from US EPA Climate and Economic Justice Screening Tool

Nevada Tribal Lands

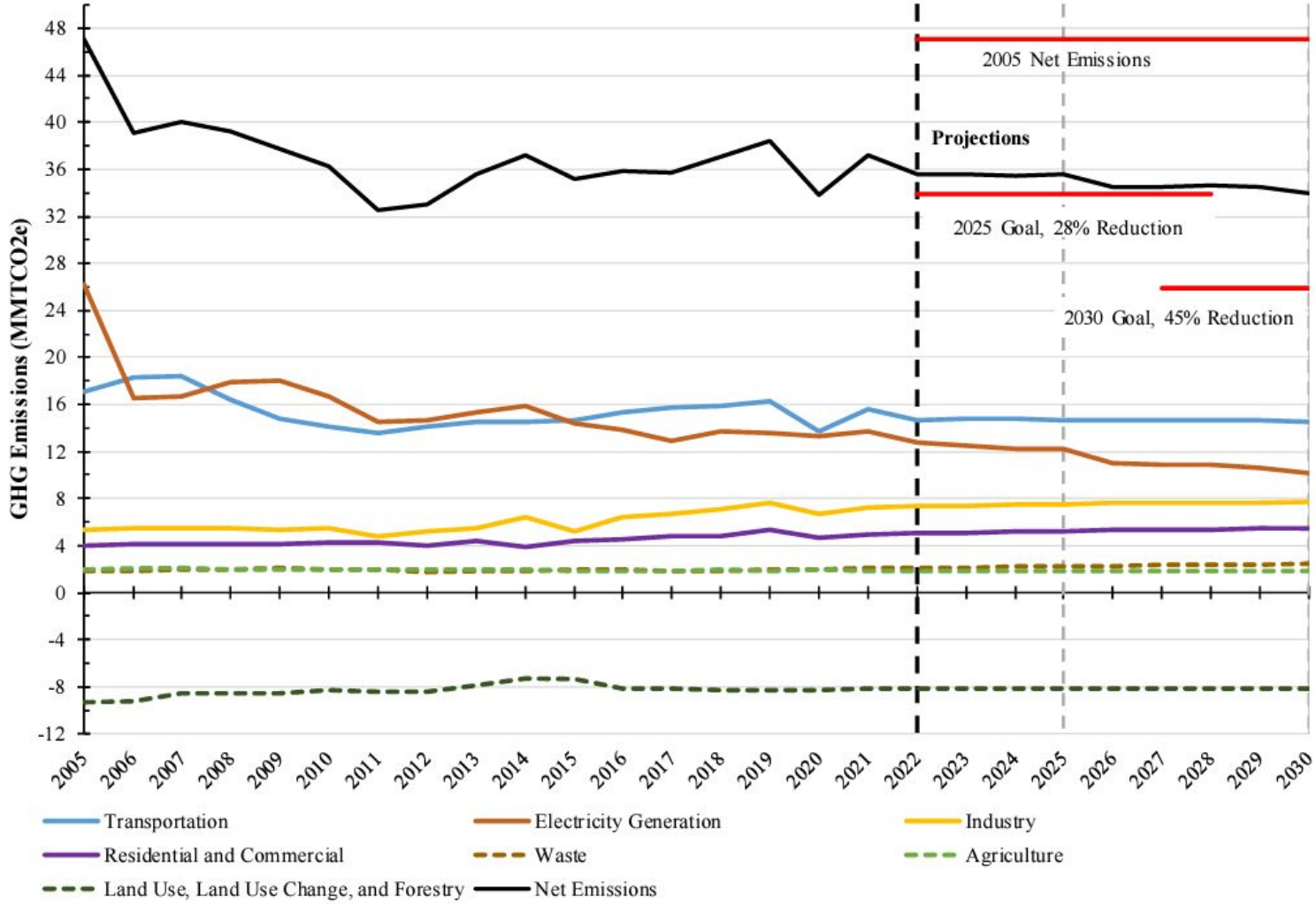
Nevada is home to:

- Wa She Shu (Washoe)
- Numu (Northern Paiute)
- Newe (Western Shoshone)
- Nuwu (Southern Paiute) Tribes

Greenhouse gas emissions

Key takeaways from NDEP GHG Emissions Inventory

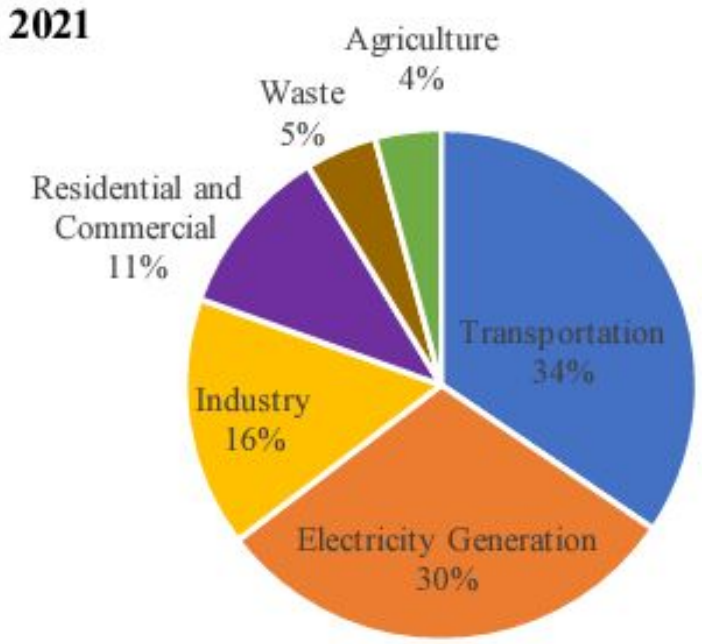
Figure ES-1: Nevada Historical and Projected Net GHG Emissions and Sinks by Sector, 2005-2030, with Projections Beginning in 2022 and Comparisons to Nevada's Emission Reduction Goals for 2025 and 2030

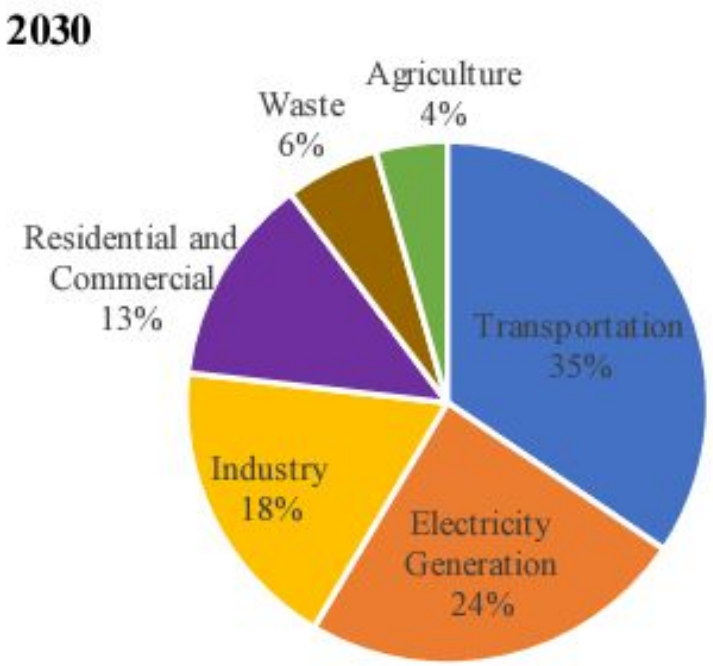


Greenhouse gas emissions

Key takeaways from NDEP GHG Emissions Inventory

Transportation is the major source of emissions, followed by electricity, industry and buildings.





Questions or Comments

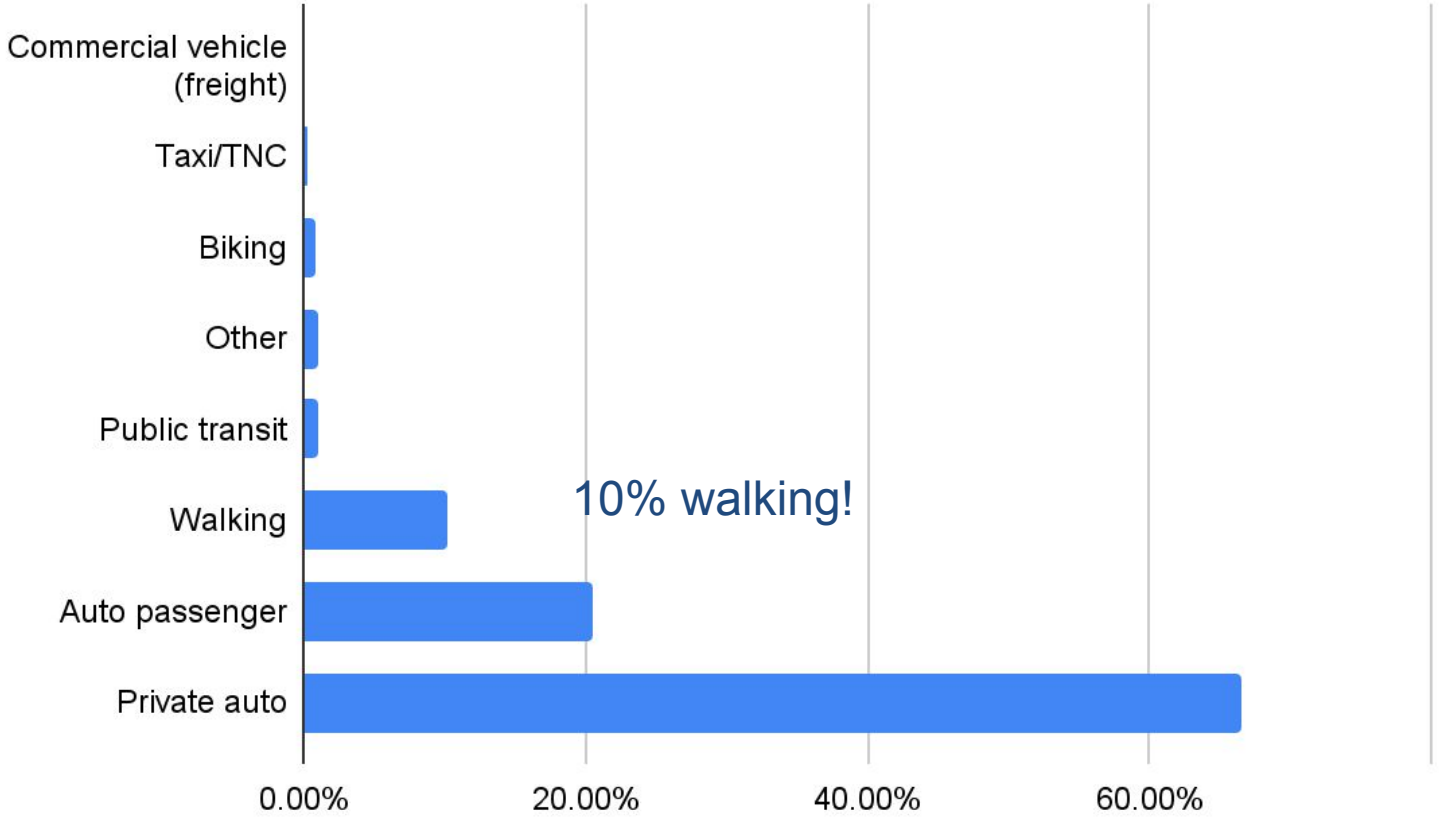
Pause for Feedback

What questions and comments do you have?

Transportation Action Planning

Transportation

People are mostly driving for personal trips.

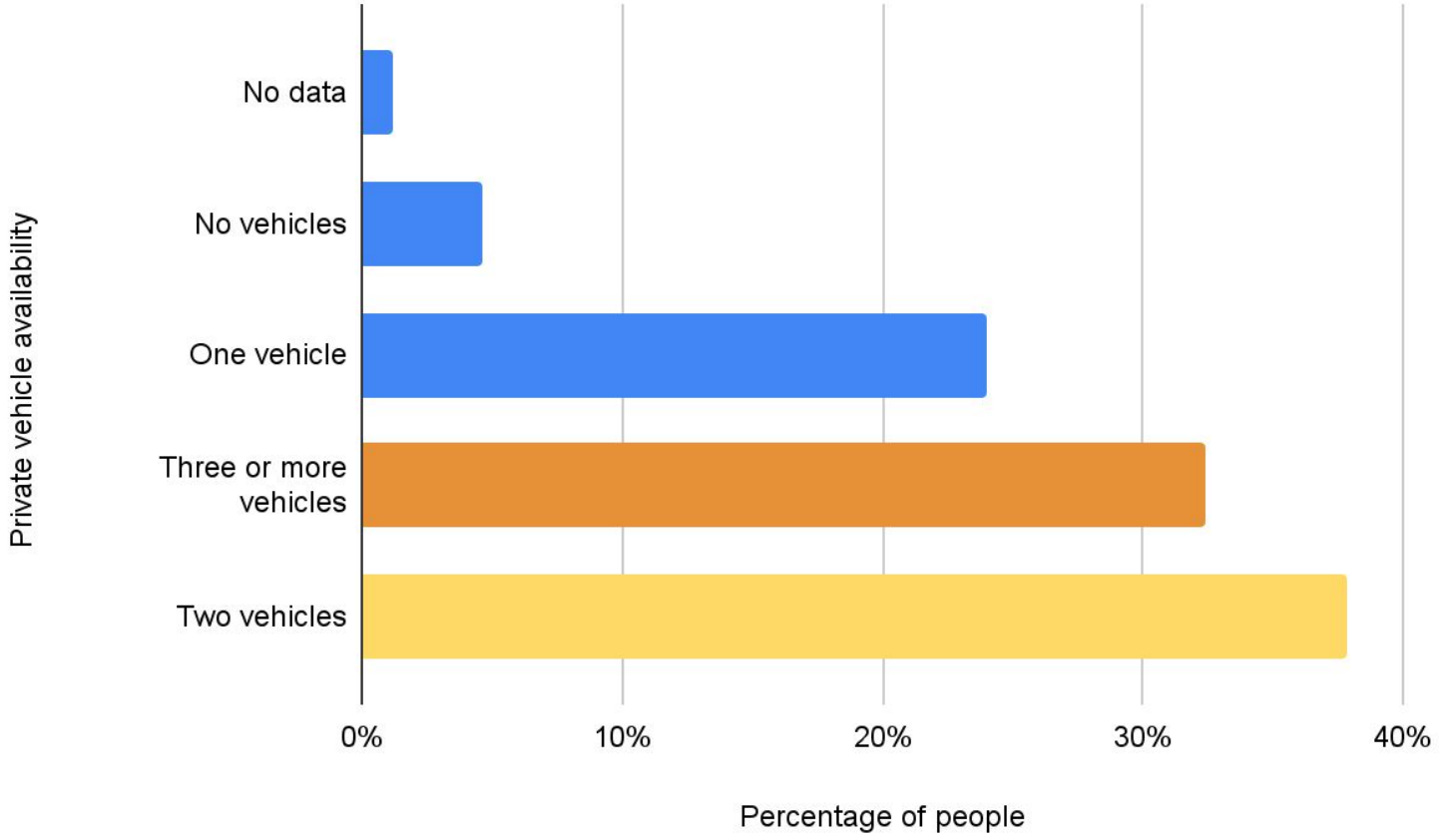


Primary Mode of Trips taken in Nevada Counties, Thursday, Spring, 2023

Source: Replica, 2023

Transportation

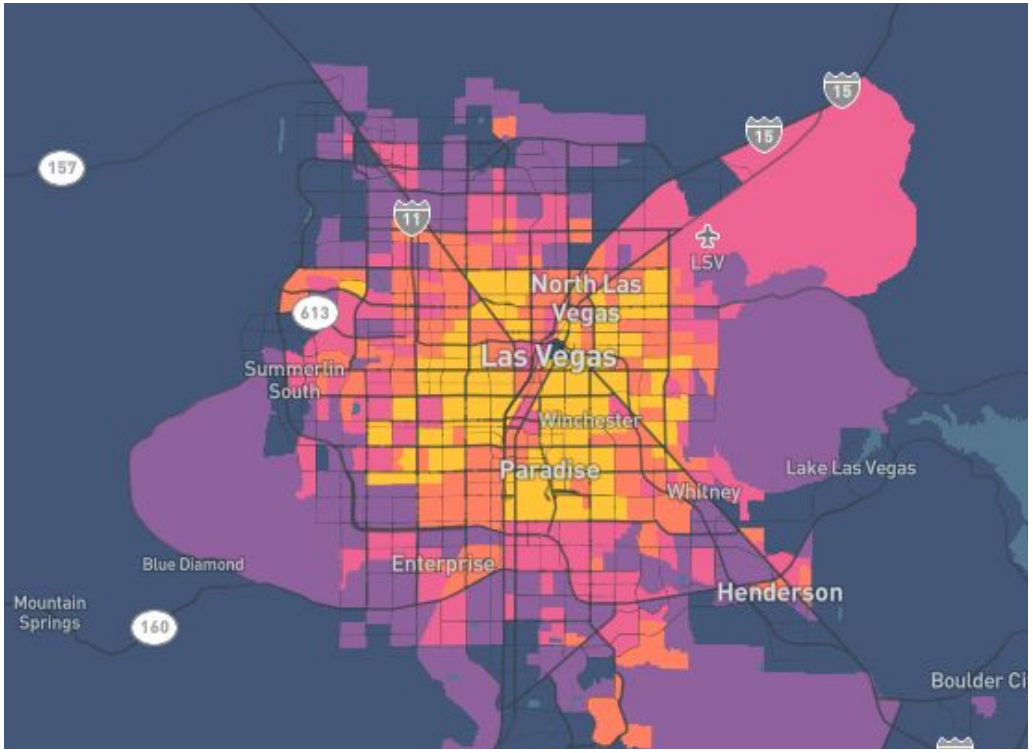
There are lots of cars in Nevada

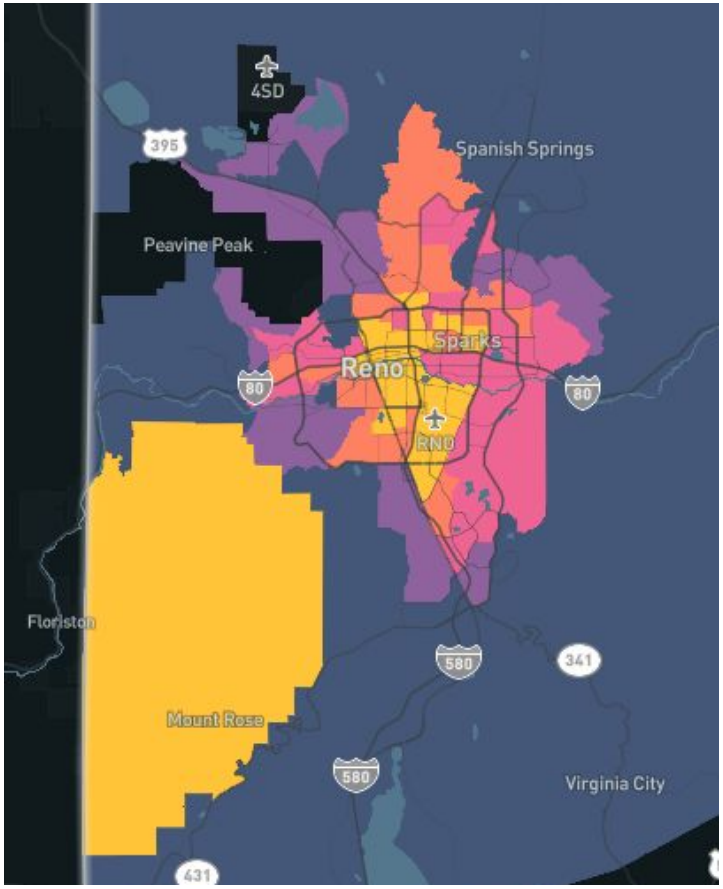


Source: Replica, 2023

Transportation

On a typical weekday, Vehicle miles travelled is 10-40x higher in rural and suburban areas.





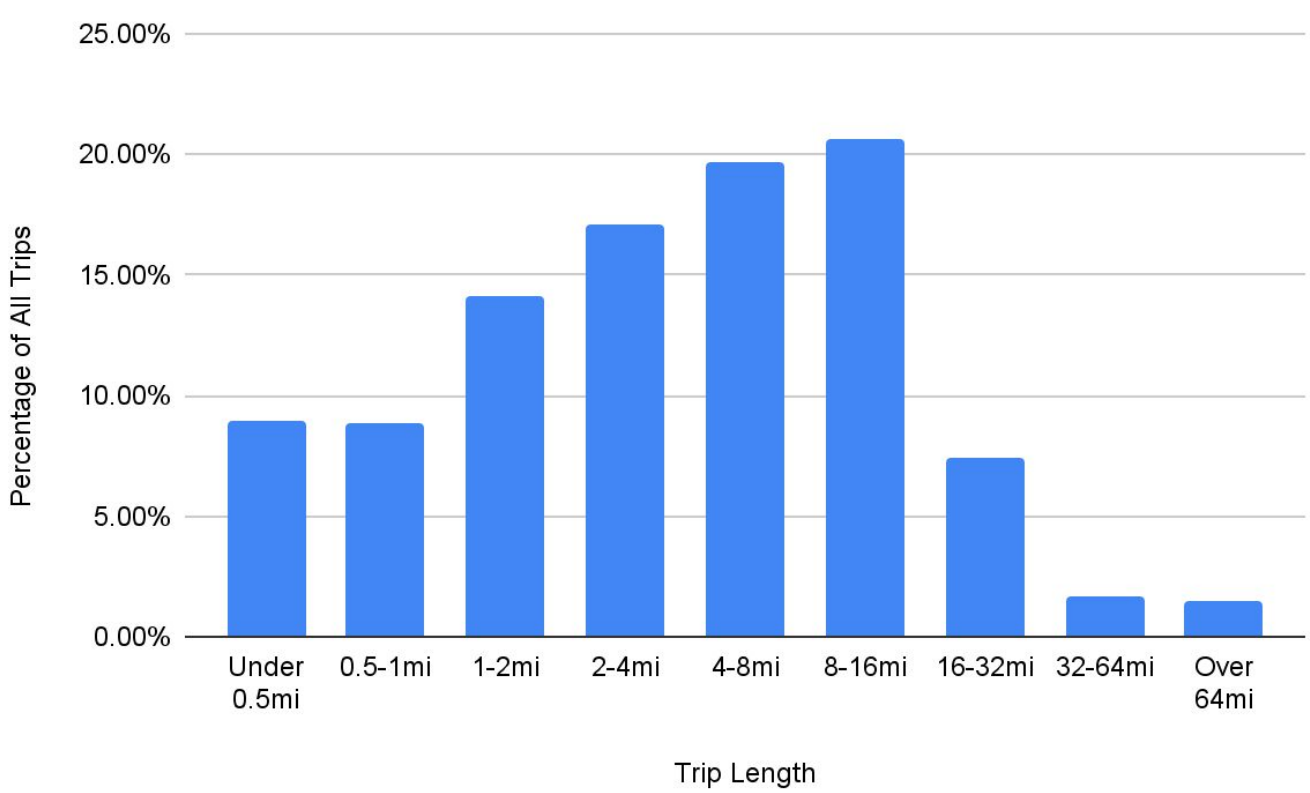
Residential VMT

Vehicle Miles Traveled in each area per resident

4.2	14.0	17.0	19.8	23.7	130

Transportation

High opportunity for mode shift in Nevada's urban areas



Nearly half of trips (49%) taken in Nevada are less than 4 miles!

Source: Replica, 2023

Transportation
Electric vehicles

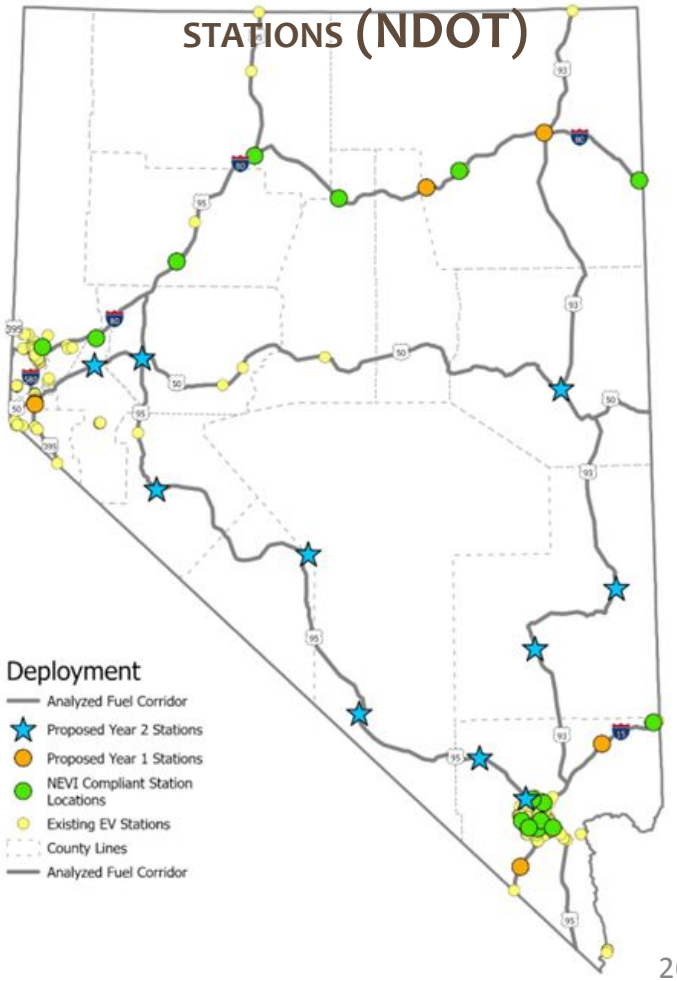
The EV revolution has not yet arrived

- In 2022, there were just 41,700 electric vehicles registered in Nevada, 1.65% of total
- Higher than national average of 1.2%

EV infrastructure is coming soon to interstates

- Fast-charging station available every ~50 miles, within 1 mile of the highway
- Builds on Nevada Electric Highway program which funded 30 stations before 2022

Proposed EV charging stations (NDOT)



Transportation

Existing Areas of Interest for Potential PCAP Projects

Existing areas of interest from state, local, and other entities from prepared submissions and questionnaire results:

- Nevada Clean Fleets Initiative
- Clean Transportation 4 All
- Supercharge EV Charging
- Sustainable Community Pathways Program
- Clean Trucks Incentive Program
- Nevada Clean Green Tourism Program

Transportation
Existing Areas of Interest for Potential PCAP Projects

Nevada Clean Fleets Initiative

Develop a comprehensive set of programs and incentives to encourage adoption and conversion to clean fleets, including converting county and large scale commercial fleets to zero-emission, EV, and alternative fuel vehicles; making updates and repairing existing EV infrastructure; and promoting alternative fuel vehicles and EV adoption. Encourage and support state agencies, county governments of the 5 most populous counties, and businesses with largest fleets to convert fleets to zero emission vehicles by 2030, and encourage and support remaining Counties to convert fleets to zero emission vehicles by 2035.

Transportation
Existing Areas of Interest for Potential PCAP Projects

Clean Transportation 4 All

Develop a comprehensive strategy, including program development, grant and technical assistance, and educational programming, to promote clean transportation options for all. Provide incentives particularly for low-income people living in priority areas and businesses operating in low-income areas to replace old polluting vehicles with new, clean transportation.

Transportation
Existing Areas of Interest for Potential PCAP Projects

Supercharge EV Charging

Develop a statewide ZEV infrastructure plan to incentivize the adoption of ZEV across the state, building on the Nevada Electric Vehicle Infrastructure Deployment Plan. At the same time, provide grants and technical assistance for counties and municipalities to develop and implement ZEV; incentivize EV stations for on-site parking, and target network improvements in select low-income and priority areas.

Transportation
Existing Areas of Interest for Potential PCAP Projects

Sustainable Community Pathways Program

Expand on and address gaps in existing public transit, bicycle, micro-mobility, car sharing and pedestrian networks by funding existing city and county plans and initiatives that support network improvement; develop a network of public charging for e-micro mobility; and incentivize micro-mobility facilities and infrastructure for e-bikes that promotes connectivity and longer distance trips.

Transportation
Existing Areas of Interest for Potential PCAP Projects

Clean Trucks Incentive Program

Develop incentive program for clean trucks, plan and develop battery swapping stations and/or hydrogen fueling stations for for medium and heavy-duty trucks along the state's freight corridors; incentivize large commercial fleets to electrify; incentivize higher sales of new medium and heavy-duty trucks; and promote reduction in carbon intensity of all transportation fuels by 2030.

Transportation
Existing Areas of Interest for Potential PCAP Projects

Nevada Clean Green Tourism Program

Enhance the state's reputation for green tourism by planning and implementing the expansion of high speed rail within the state and with Northern California; incentivising decarbonization of airport buildings and transit facilities; developing sustainable aviation fuels near airports; and enhancing seamless multi-modal network connections for residents and visitors.

Discussion

Breakout Groups

What's working already and is an opportunity to build on?

What actions could lead to a dramatic reduction in GHG emissions from transportation in your community?

What would it take to make that transformation?

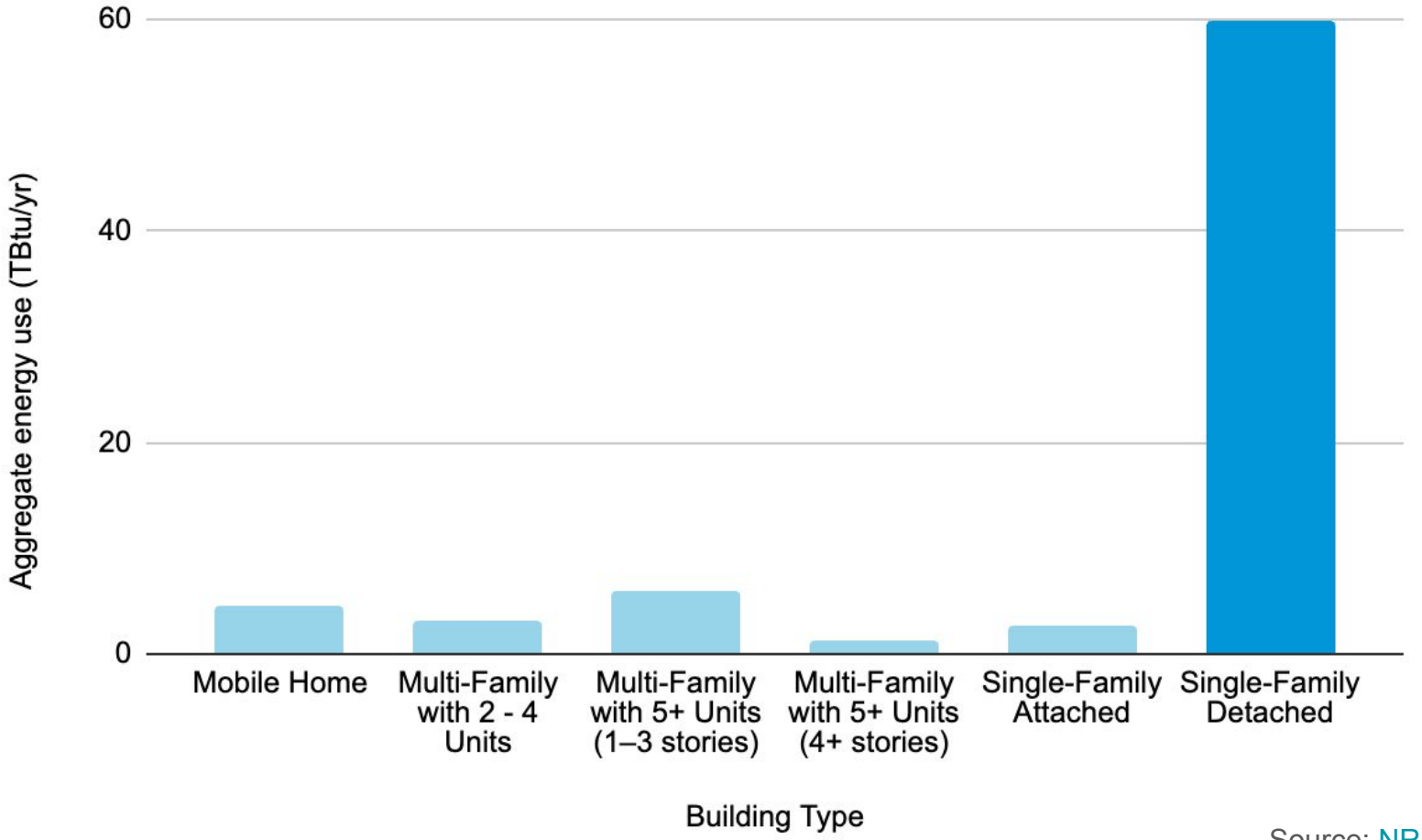
Approximately 20 minutes in breakout groups.

Use menti or chat or post-its in addition to speaking.

Buildings Action Planning

Buildings

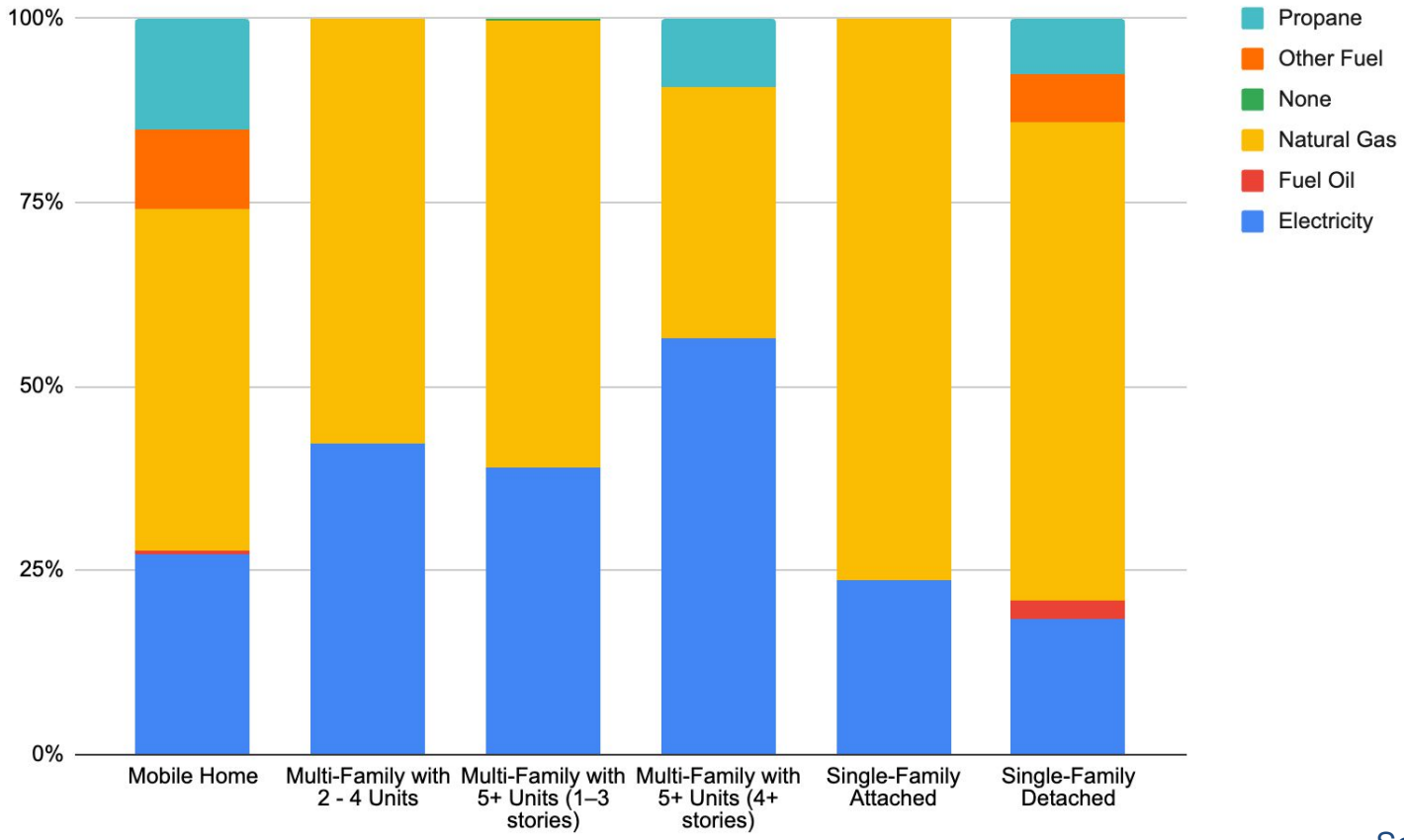
In aggregate, single family homes use a lot of energy



Source: NREL, 2023

Buildings

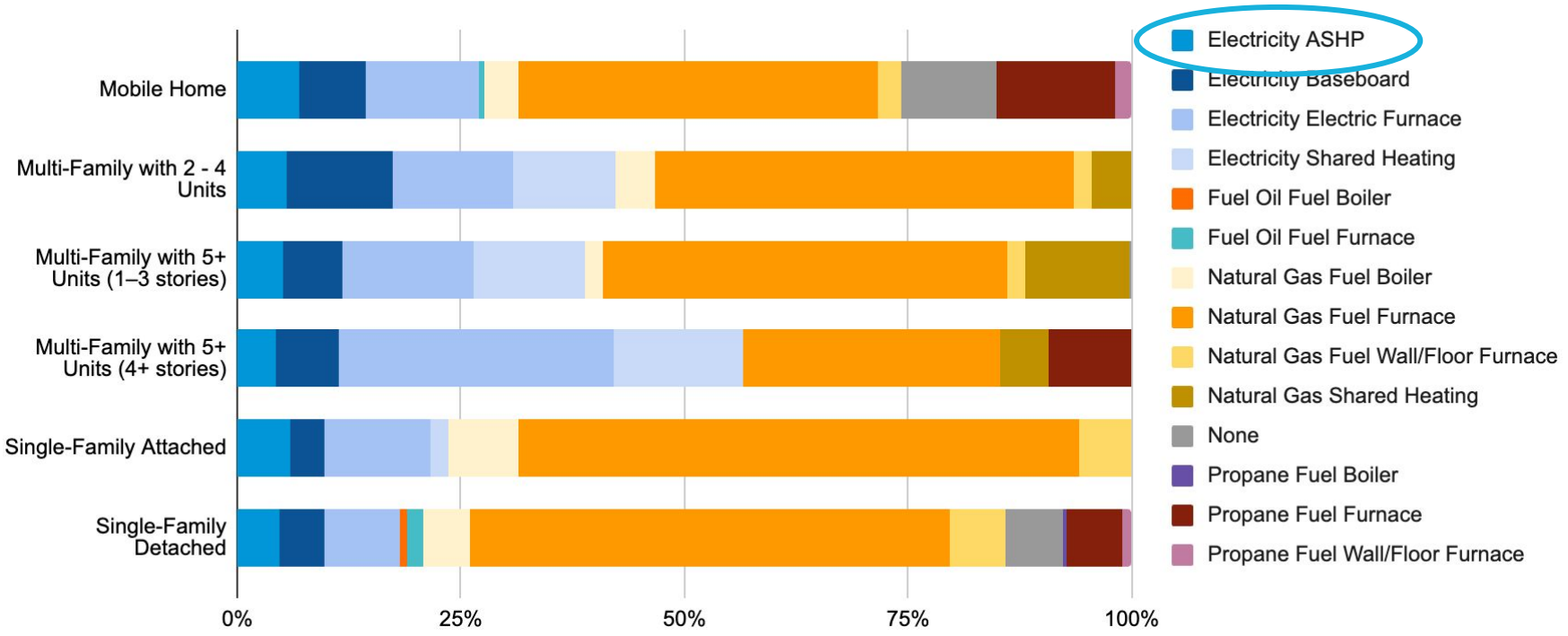
Most residences are heated with natural gas.



Source: NREL, 2023

Buildings

Heat pump heating is low across all housing types.

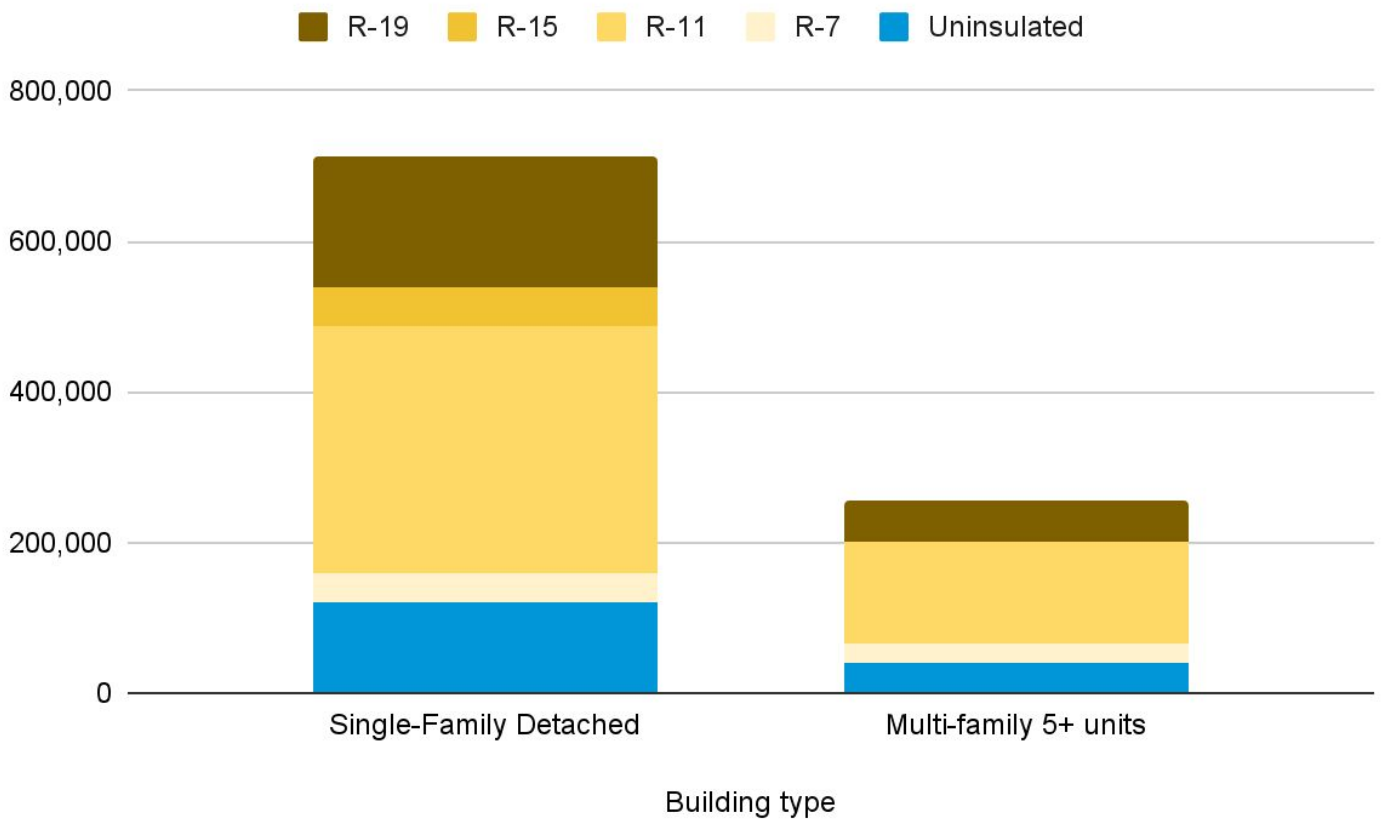


Residential Building Stock in Nevada

Source: NREL, 2023

Buildings

More than a quarter of residences are poorly insulated or uninsulated.



Residential Building Stock in Nevada

Source: NREL, 2023

Buildings

Existing Areas of Interest for Potential PCAP Projects

Existing areas of interest from state, local, and other entities from prepared submissions and questionnaire results:

- Nevada Resilient Homes Program (Residential)
- Transform an Entire Neighborhood or Community
- Smart Energy Nevada Program (Commercial)
- Building Decarbonization Financing Mechanisms

Buildings

Existing Areas of Interest for Potential PCAP Projects

Nevada Resilient Homes Program (Residential)

Launch a state-wide residential building efficiency program, prioritizing low-income neighborhoods and/or disadvantaged communities. The program would expand pre-weatherization programs, provide incentives to promote energy retrofits in existing buildings, reduce emissions in new construction, and incentivize full electrification in new buildings, as well as and on-site renewable energy generation for existing buildings.

Buildings
Existing Areas of Interest for Potential PCAP Projects

Transform an Entire Neighborhood or Community

Support the development of a holistic emissions-free and energy-affordable community, including adding key services within walking/biking distance; developing transit infrastructure; housing retrofits; solar generation; and a district energy system.

Buildings

Existing Areas of Interest for Potential PCAP Projects

Smart Energy Nevada Program (Commercial)

Launch a state-wide commercial building efficiency program. Expand non-residential building retrofits program and net zero new construction programs, including shifting to airsource or geothermal heat pumps for heating and cooling; incentivizing urban infill, supporting the use of low-carbon materials in new constructions, and expanding energy saving performance contracting.

Buildings

Existing Areas of Interest for Potential PCAP Projects

Building Decarbonization Financing Mechanisms

Use and expand existing financing mechanisms to support building energy retrofits, including the NV Clean Energy Fund. Additionally, explore other financing mechanisms to accelerate adoption of clean energy building programs, including the development of a CPRG Revolving Loan Fund; expanding and supporting community land trusts; on-bill financing; direct residential lending; and enabling Residential-PACE (R-PACE).

Discussion

Breakout Groups

What's working already and is an opportunity to build on?

What actions would lead to a dramatic reduction in GHG emissions from buildings?

What would it take to make that transformation?

Approximately 20 minutes in breakout groups.

Use menti or chat or post-its in addition to speaking.

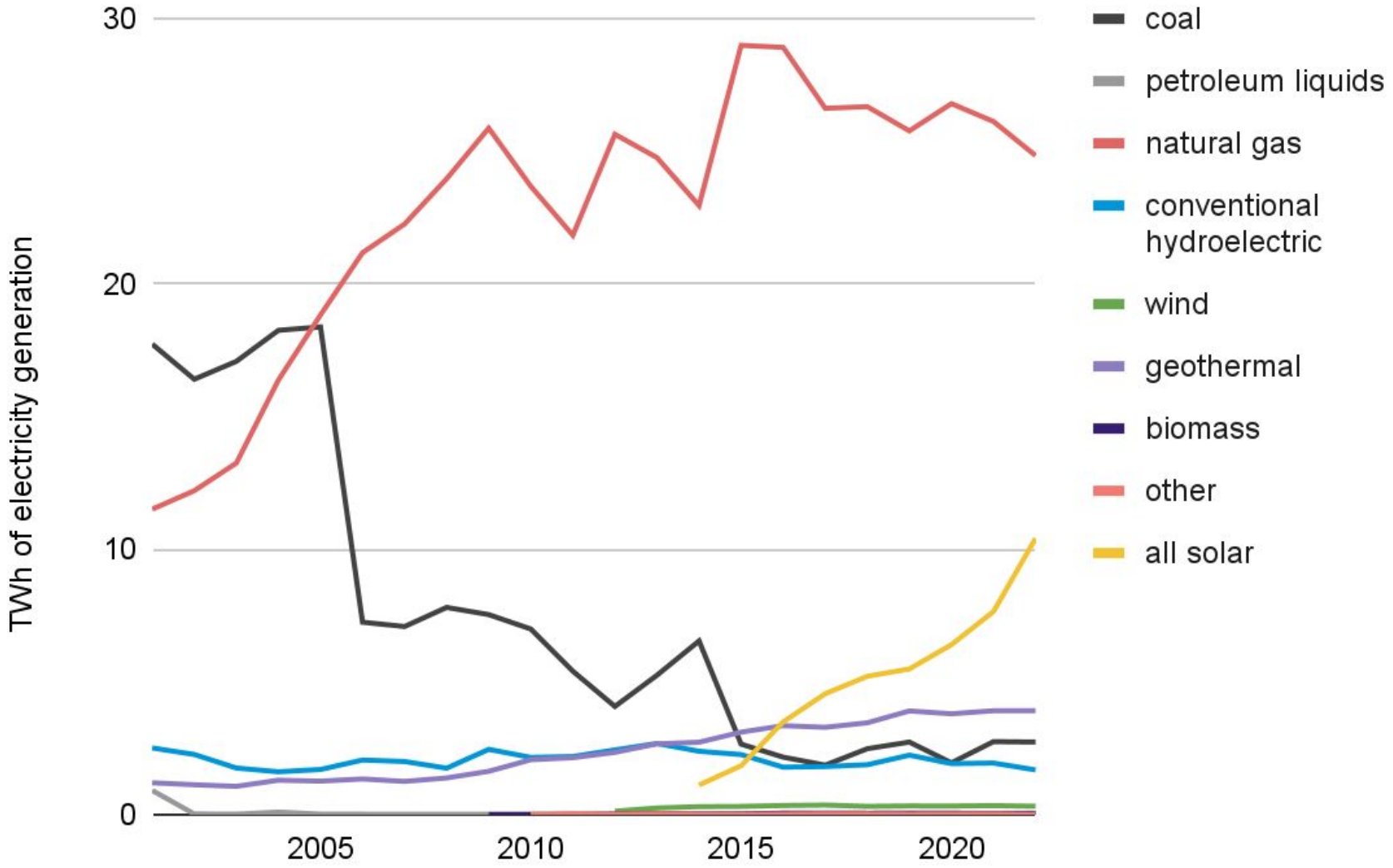
Other Sectors in Action Planning

Other sectors

- Energy Generation
- Waste
- Industry
- Carbon Sequestration

Electricity

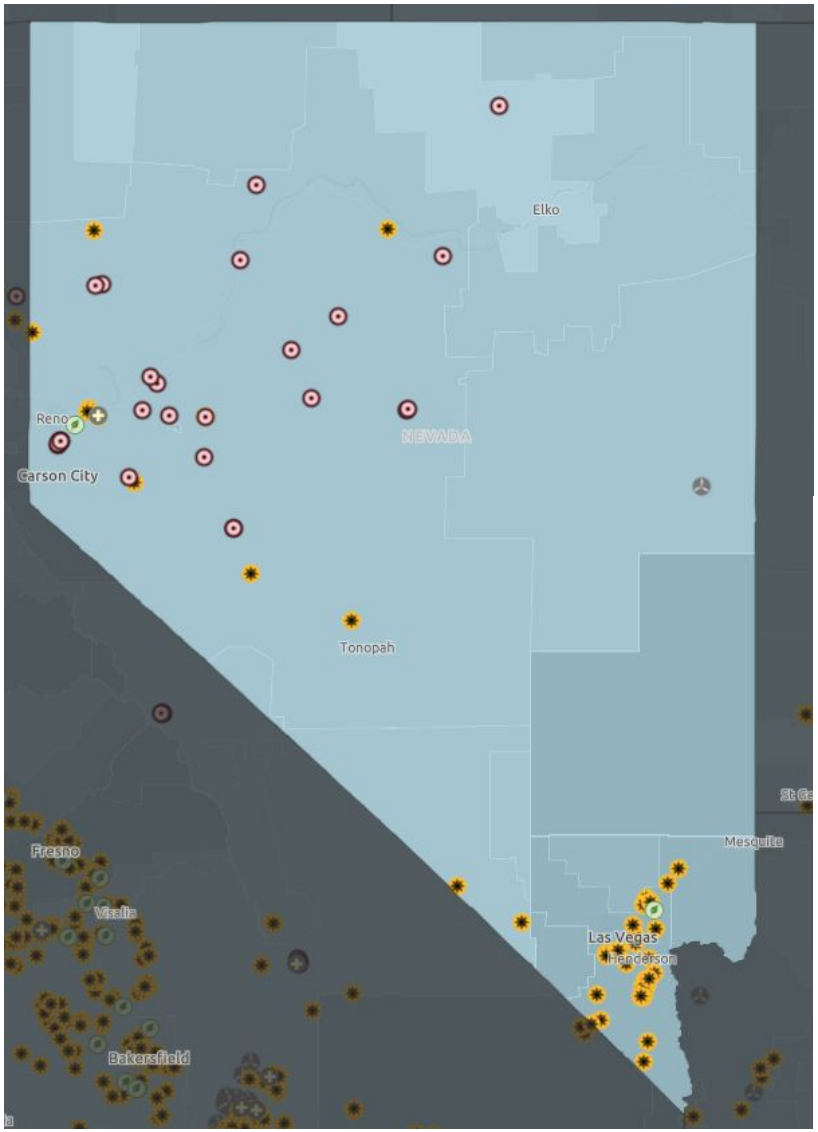
Key takeaways about power generation in Nevada



And the transition to renewable energy is underway

- Nevada has more than tripled its renewable energy production since 2011, while maintaining energy reliability through a diverse energy portfolio
  - 2010 renewable generation: 4.44 TWh
  - 2021 renewable generation: 12.786 TWh
- SB 359 (2019) modified Nevada's Renewable Portfolio Standard (RPS) by increasing the percentage of renewable electricity sold each year to Nevadans to 50% by 2030
- Nevada is one of seven states with utility-scale electricity generation from geothermal energy, and the state is second only to California in geothermal-sourced power production

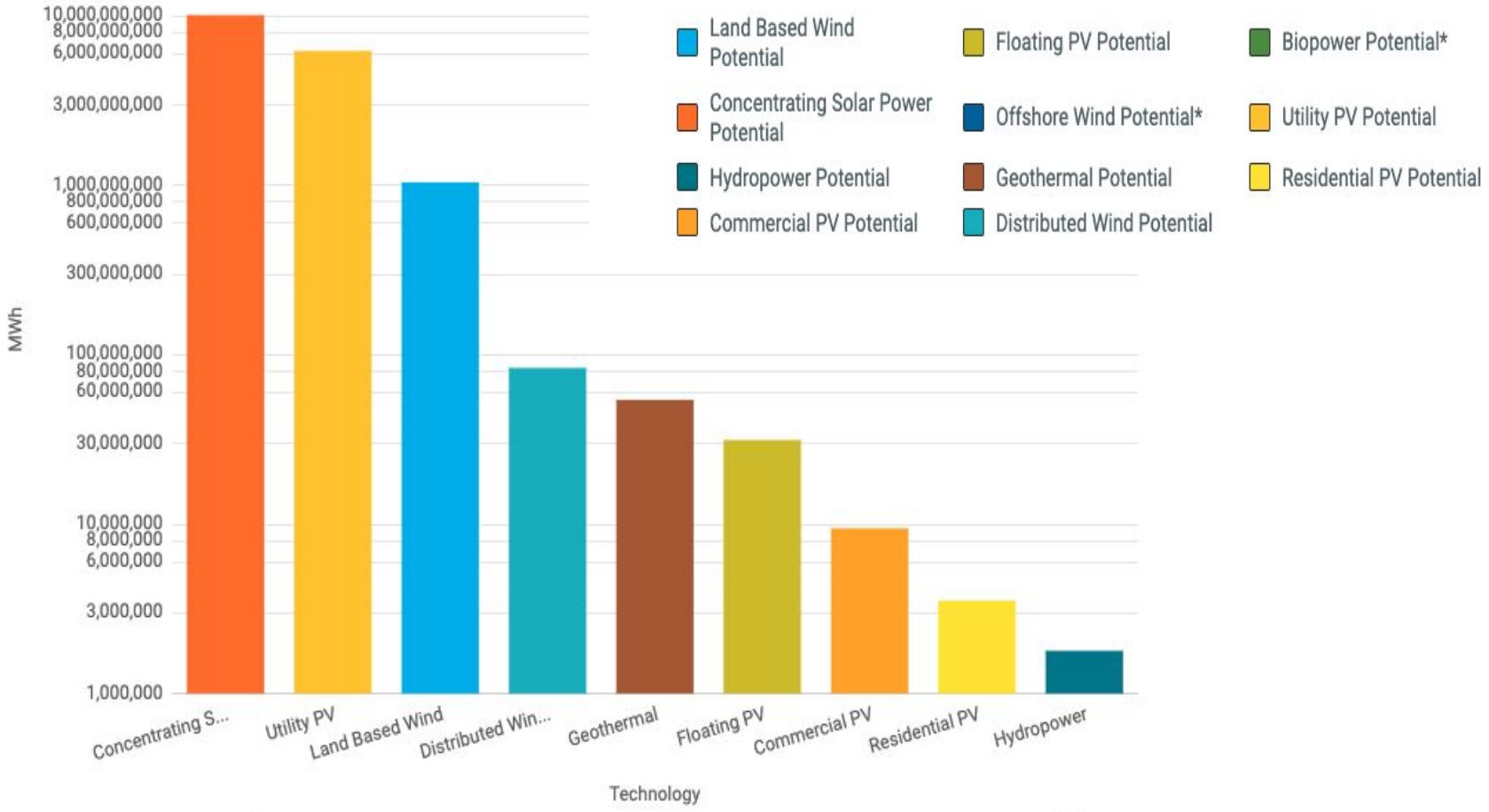
More and more renewables have recently come online.



- 82 renewable power plants across the state
- 6,100 MW nameplate capacity

Source: EIA US Energy Atlas, 2023

Nevada has the potential to tap into significant renewable energy resources



Source: NREL SLOPE (State and Local Planning for Energy)

Energy Generation

Existing Areas of Interest for Potential PCAP Projects

Existing areas of interest from state, local, and other entities from prepared submissions and questionnaire results:

- Solar Gardens/Community Renewable Empowerment Plan
- Community-Centered Renewable Empowerment Plan
- Fund and Support a Tribal Climate Coalition
- Modernize Nevada's Transmission Network Program
- Retrofitting Thermal Power Plants

Energy Generation

Existing Areas of Interest for Potential PCAP Projects

Solar Gardens/Community Renewable Empowerment Plan

Support the development of community energy plans by providing state-backed loans and grants for community-scale renewable projects. Support the creation of “Solar Gardens”and/or solar cooperatives to help generate electricity for rural and smaller communities.

Energy Generation

Existing Areas of Interest for Potential PCAP Projects

Community-Centered Renewable Empowerment Plan

Accelerate the state's transition to a renewable energy future by developing incentives and measures to streamline permitting for renewable energy projects; developing training programs for local officials on renewable project approval processes; and incentivizing projects with the highest level of community benefits.

Energy Generation

Existing Areas of Interest for Potential PCAP Projects

Fund and Support a Tribal Climate Coalition

Support and finance a network of Nevada tribal communities that can help advance climate projects, set priorities, and identify direct impact of projects on tribal communities within and outside of tribal lands. Expand solar projects on tribal lands, capitalizing on existing and ongoing projects.

Energy Generation

Existing Areas of Interest for Potential PCAP Projects

Modernize Nevada's Transmission Network Program

Provide financial and technical support to modernize Nevada's grid for future energy demands, including upgrading grid infrastructure and development of high-capacity transmission lines for renewable integration. Capitalize on the Transmission Facilitation Program (TFP) ($2.5 billion revolving fund) for development of new transmission lines; require that tilities develop comprehensive grid modernization plans; and develop programs to support smart-grid and/or behind-the-meter technologies.

Energy Generation

Existing Areas of Interest for Potential PCAP Projects

Retrofitting Thermal Power Plants

Transforming existing fossil fuel-based thermal power plants offers two sustainable options: (1) Retrofitting to run on green hydrogen, significantly reducing emissions, and (2) Modifying them into Carnot batteries for efficient energy storage and discharge, utilizing surplus green electricity. This dual approach promotes eco-friendly operations and enhances grid stability.

Industry

Existing Areas of Interest for Potential PCAP Projects

Existing areas of interest from state, local, and other entities from prepared submissions and questionnaire results:

- Clean Energy Hubs Program
- Holistic, Site-Specific Transform an Industrial Area
- Clean Mining Program
- Industrial Sector Emission Reduction Incentives

Industry

Existing Areas of Interest for Potential PCAP Projects

Clean Energy Hubs Program

Expand existing initiatives and programs to repurpose former mine lands into clean energy hubs.

Industry

Existing Areas of Interest for Potential PCAP Projects

Transform an Industrial Area

Develop a holistic strategy to transform an industrial site towards greater energy integration and self-sufficiency. Efforts may include creating a smart grid to alternate between using, generating and storing energy in the area; replacing vehicle fleets with EVs; using waste and waste water to produce RNG; using wastewater heat and/or industrial heat to heat spaces and domestic water; piping CO2 to stimulate plant growth; improving process efficiencies; and using thermal energy storage powered by renewables for industrial heat and power.

Industry

Existing Areas of Interest for Potential PCAP Projects

Clean Mining Program

Capitalize on IRA's financial incentives for renewable energy and Green H2 to increase development and implementation of clean technologies including energy efficiency and electrification of mining processes; heating batteries; and promoting H2-fueled or electric mining trucks and vehicles.

Industry

Existing Areas of Interest for Potential PCAP Projects

Industrial Sector Emission Reduction Incentives

Incentivize changes to activities with high carbon intensity, including routine natural gas flaring and venting, and fugitive methane emissions from new and existing facilities.

Waste

Existing Areas of Interest for Potential PCAP Projects

Existing areas of interest from state, local, and other entities from prepared submissions and questionnaire results:

Organic Waste Diversion Programs

Incentivize waste diversion and composting (such as in Washoe County's Green Recovery Plan) which includes piloting and evaluating the feasibility of scaling up curbside green waste collection and composting.

Carbon sequestration
Existing Areas of Interest for Potential PCAP Projects

Existing areas of interest from state, local, and other entities from prepared submissions and questionnaire results:

- Support community-centered restoration and carbon sequestration projects.
- Repurpose brownfields and mines for carbon capture.

Carbon sequestration
Existing Areas of Interest for Potential PCAP Projects

Community-centered restoration and carbon sequestration projects
Support existing state land conservation goals and ecological restoration programs, and develop new programs on healthy soils, urban forestry, and green infrastructure/adaptive reuse, linking these efforts with active transportation and renewable energy projects where possible.

Carbon sequestration
Existing Areas of Interest for Potential PCAP Projects

Repurpose brownfields and mines for carbon capture.
Build on NDEP's existing Brownfields Program to incentivize the use of former mines and brownfield sites for CO2 storage and Incentivize or require ecological restoration or green infrastructure/adaptive reuse of these sites wherever possible.

Discussion

Breakout Groups

What's working already and is an opportunity to build on?

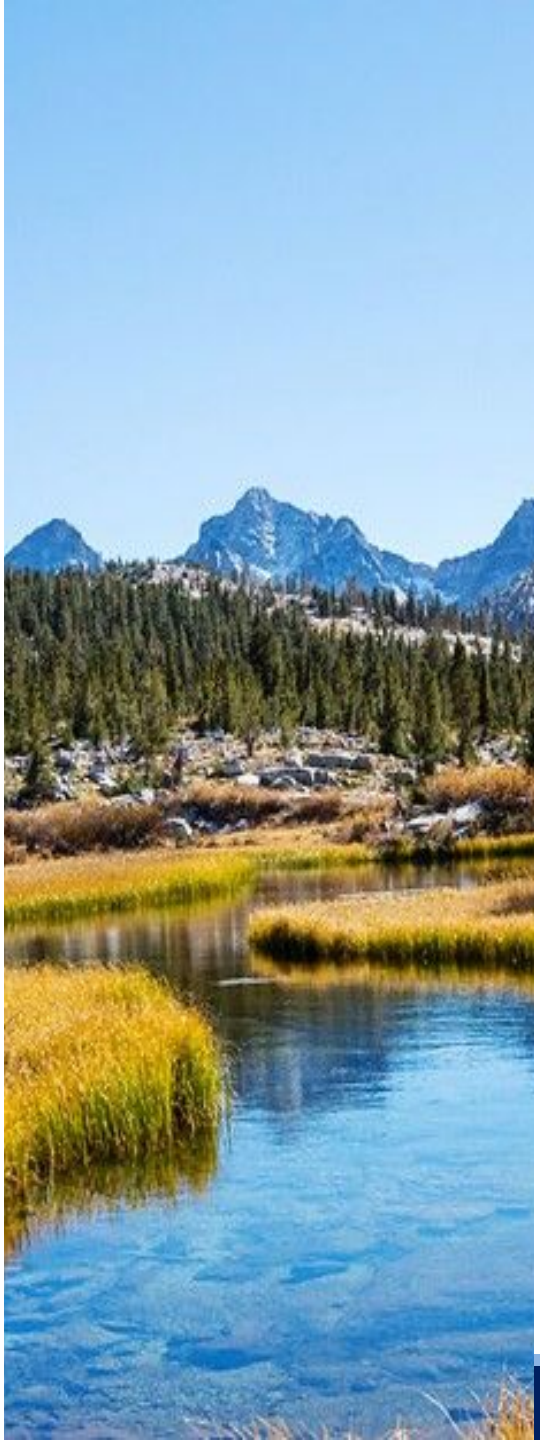
What actions would lead to a dramatic reduction in GHG emissions?

What would it take to make that transformation?

Approximately 20 minutes in breakout groups.

Use menti or chat or post-its in addition to speaking.

Questions?



Contact

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

Email: ndep.cprg@ndep.nv.gov