



NEVADA DIVISION OF  
**ENVIRONMENTAL  
PROTECTION**



Nevada Department of  
**CONSERVATION &  
NATURAL RESOURCES**

# Comprehensive Climate Analysis for Nevada Technical Working Group

Meeting 1  
October 23, 2024

**Presented by**

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

# CONTENTS

---

- Overview of Comprehensive Climate Analysis for Nevada (CCAN)
- Overview of Modeling Approach (10 min)
- Presentation of Business as Usual and Business as Planned (30 min)
- Discussion: Exploring Future Scenarios (30 min)

# HOUSEKEEPING

---

- Use the Zoom chat at any time to ask questions or make comments.
- Raise hand to speak during discussion.
- Be mindful of sharing time and listening to others.

# PROJECT TEAM - STATE OF NEVADA

---



Andrew Tucker  
Bureau Chief



Steve McNeece  
GHGs Supervisor



Taylor Pavlu  
GHGs  
Environmental Scientist

## Bureau of Air Quality Planning



Nicole Kelleher  
Energy Programs Manager



Fay Aboussleman  
Grants & Projects Analyst

## Office of Energy

# PROJECT TEAM - CONSULTANTS

---



Yuill Herbert  
Principal



Kayla Rakes  
Project Lead



Erica Brook  
Engagement Lead



Esteban Vera Soto  
Modelling Lead



Soraya Sarshar  
Analyst

## Sustainability Solutions Group



Ericka Aviles  
Principal



Leiandra R. Gaskill  
Project Manager

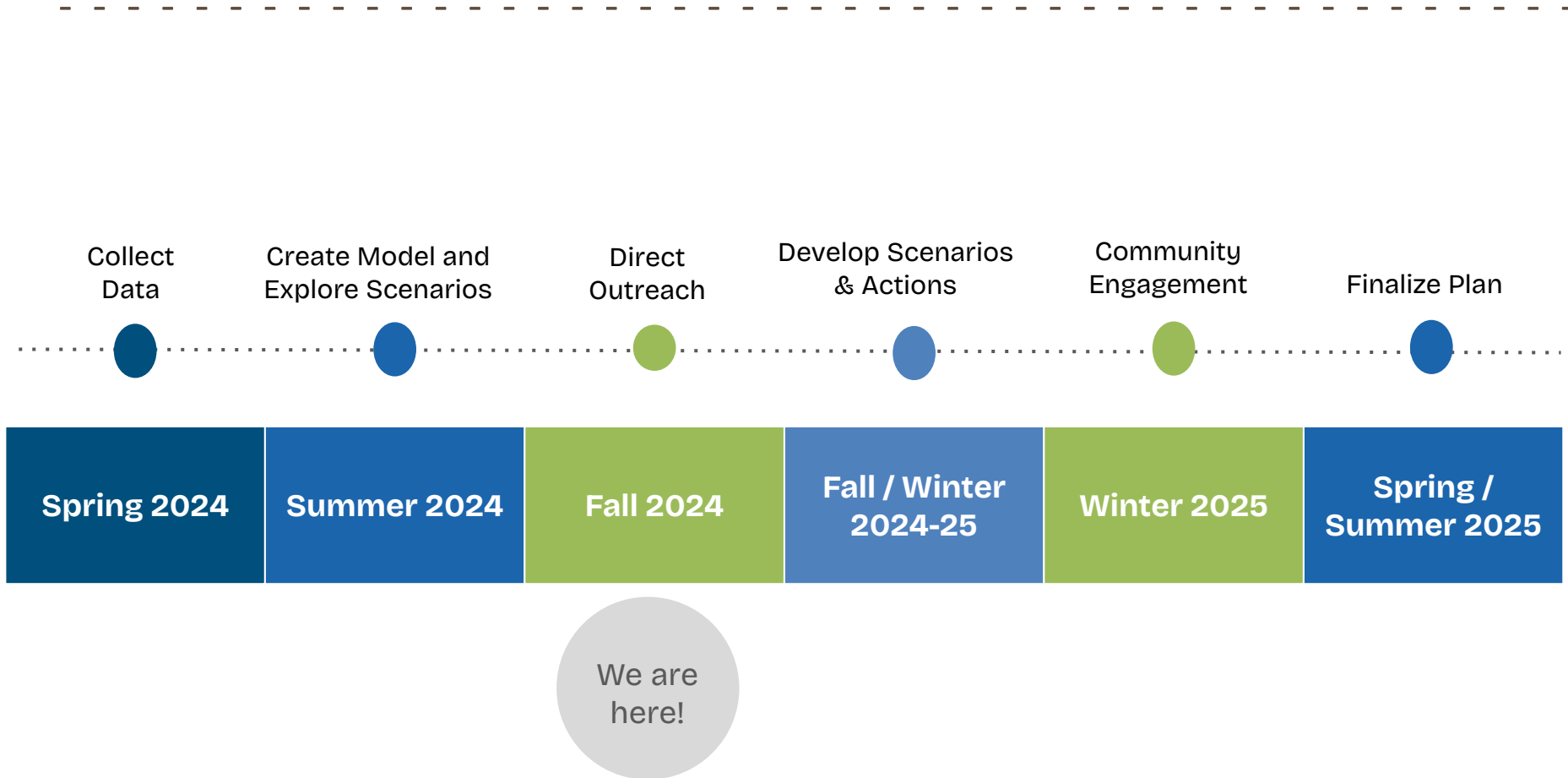
## Ericka Aviles Consulting

## CCAN PURPOSE

---

Provide Nevadans with a key resource for making informed decisions about climate actions that may be helpful for them and their communities.

# CCAN PROCESS



# ROLE OF TWG

---

- Provide feedback and comments at key points of technical analysis.
- Support the broader engagement process; and
- Connect with their networks.



# ENGAGEMENT PROCESS

---

## Direct Outreach

Technical Working Group

Ongoing

LIDAC Key Informant Interviews

Oct. 2024 - Jan. 2025

Tribal Representative Interviews

## Community Engagement

Regional Meetings (North, South, Rural online)

Winter 2025

Webinar

Draft CCAN Open Comments

Spring

## Communication

Newsletters

Ongoing

Expanded Website

Presentation & Summary Report

Summer

# Introductions

# INTRODUCTIONS

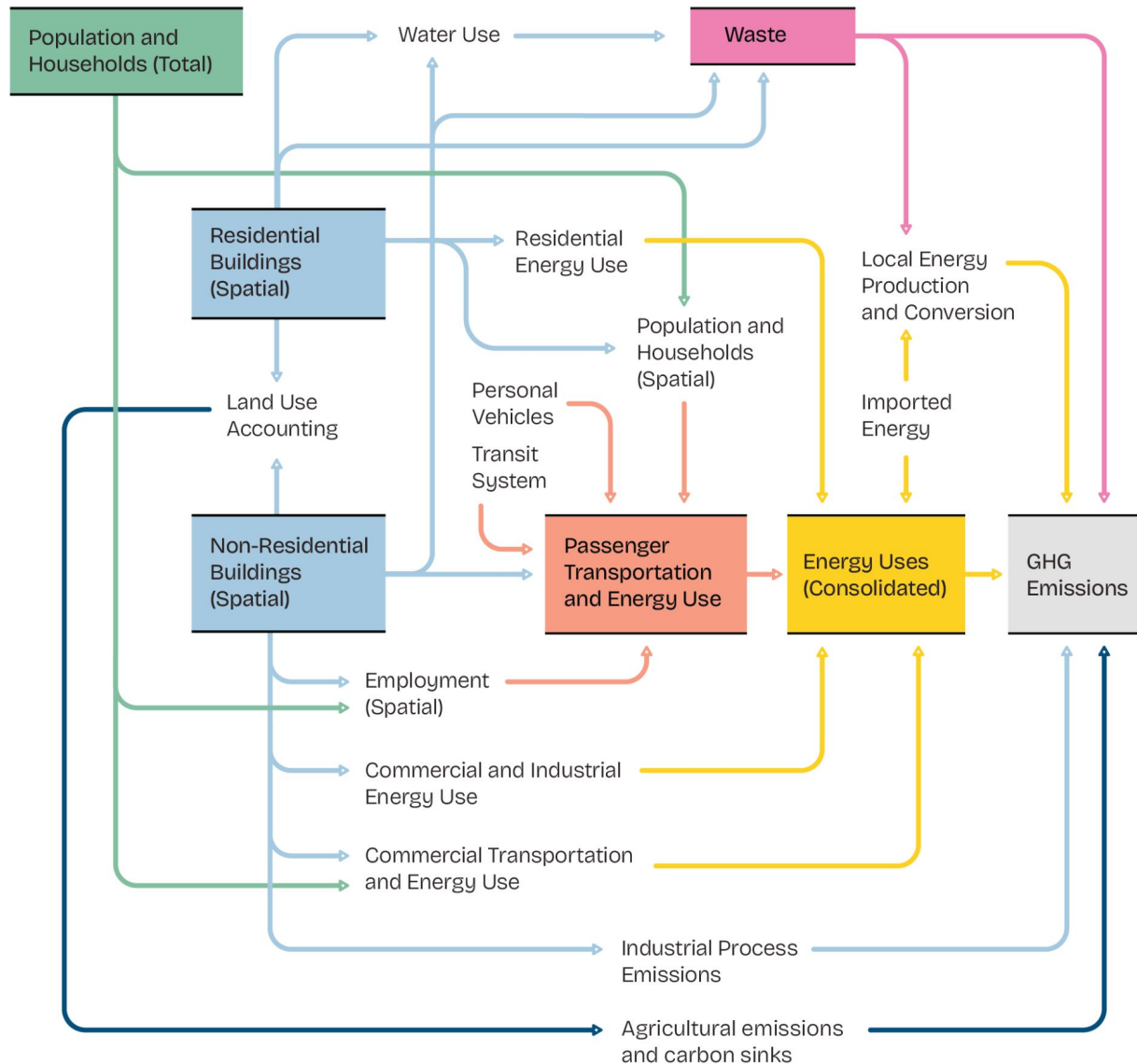
---

Please share your name, organization, position.

- What would you like to accomplish with this working group?
- What are the future trends for Nevada that you're hopeful about?

# Modeling Approach

# THE MODEL



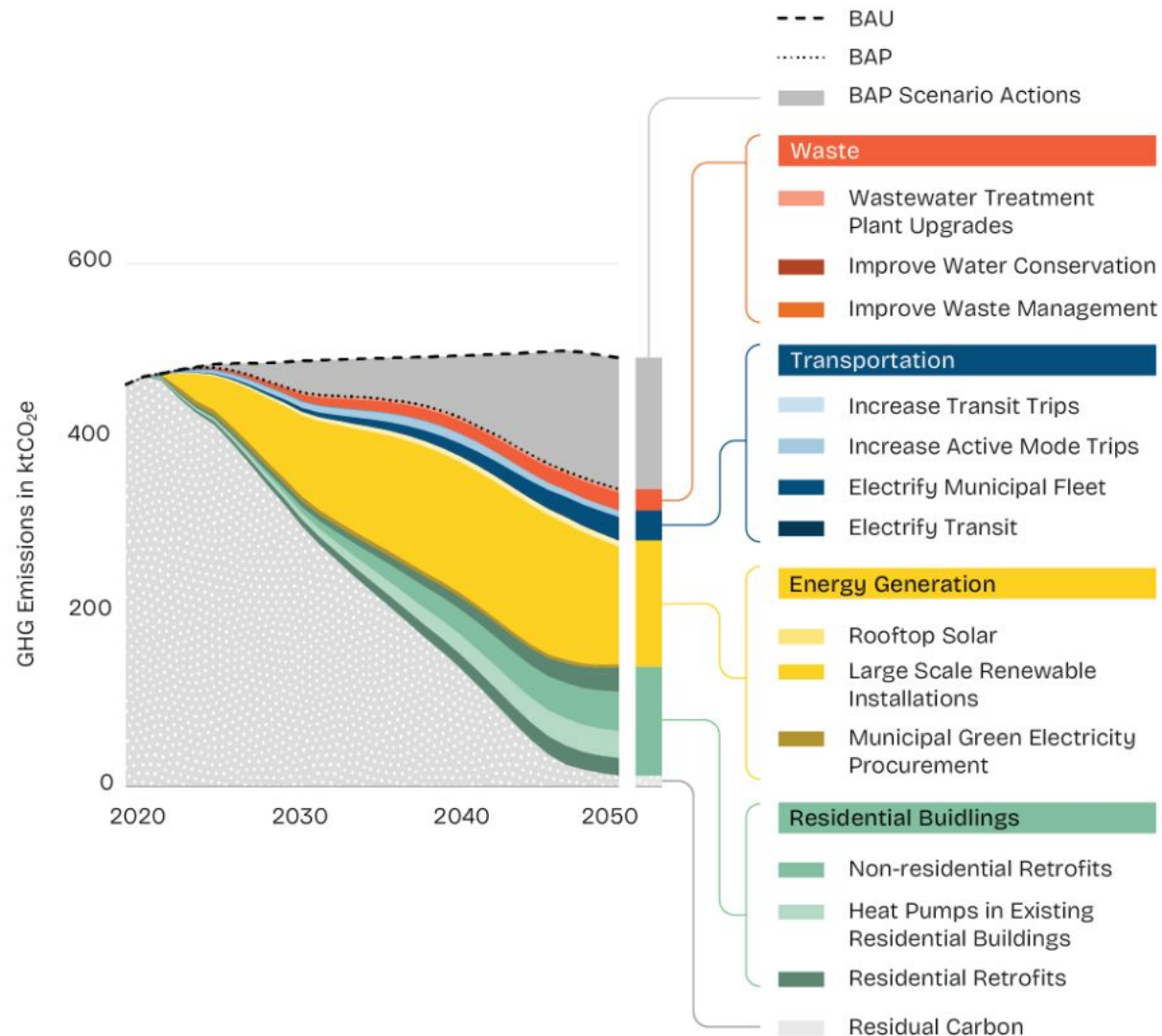
# WHAT IS A SCENARIO?

---



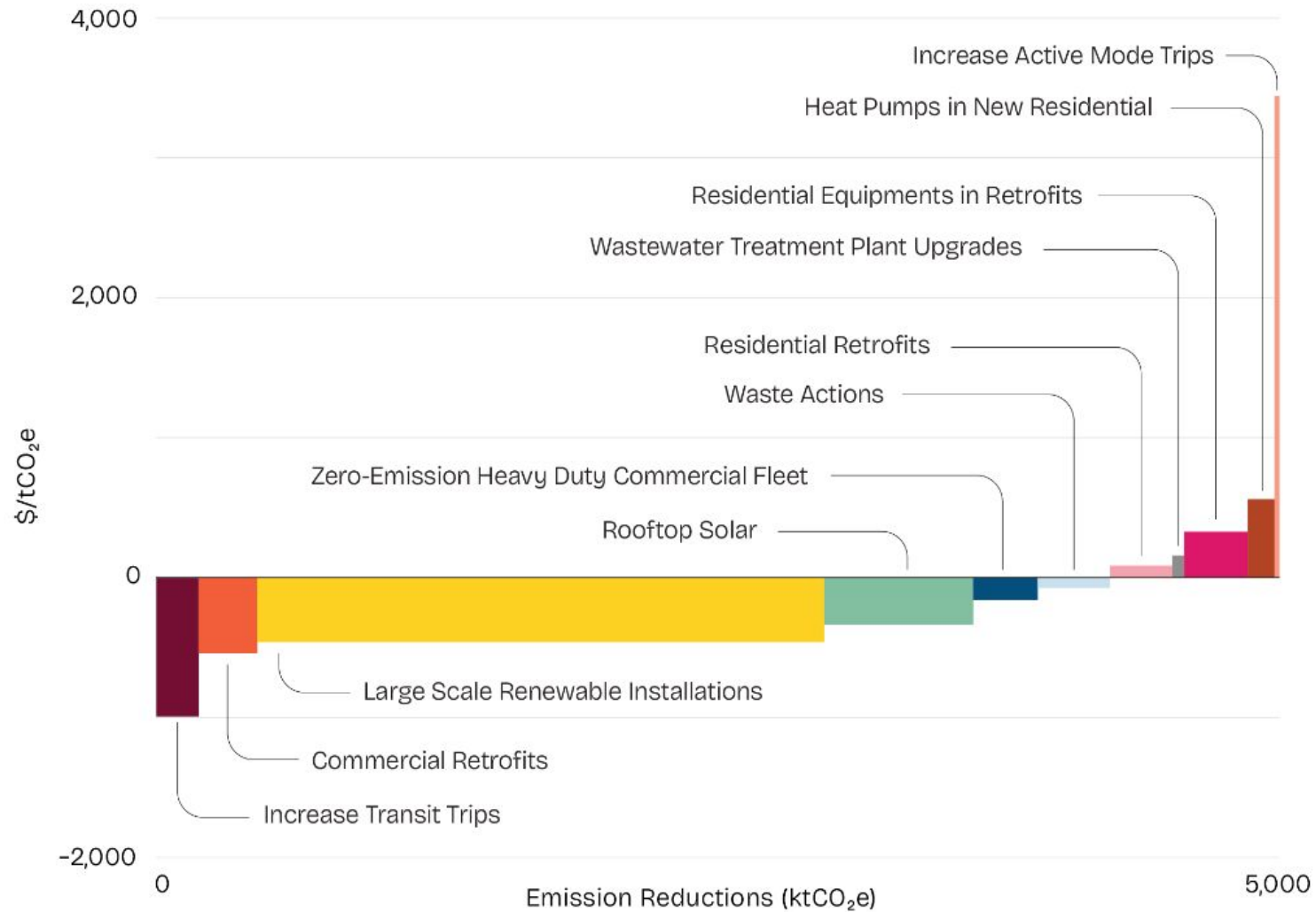
A possible future  
for Nevada

# BUILDING SCENARIOS



# BUILDING SCENARIOS

## COSTS AND BENEFITS





# THE MODELED SCENARIOS

---

What would happen to energy and emissions if:

**No changes in current  
policies**

**Business as Usual (BAU)  
Scenario**

**Intended climate policies  
are implemented**

**Business as Planned (BAP)  
Scenario**

**New initiatives are  
implemented**

**Future Emissions  
Scenarios**

# How MODELING ASSUMPTIONS Affect DIFFERENT SCENARIOS

## EXAMPLE ASSUMPTIONS

---

### BAU Scenario

### BAP Scenario

### Future Emissions Scenarios

More people

More households

More heating and cooling needed

More cars

More waste in landfills

More renewable energy

Some electric vehicles

Mode shift to walking, biking, transit

Increased recycling and composting

Zero emissions electricity

More electric vehicles and infrastructure

Building Performance Standards

Net-Zero Building Code

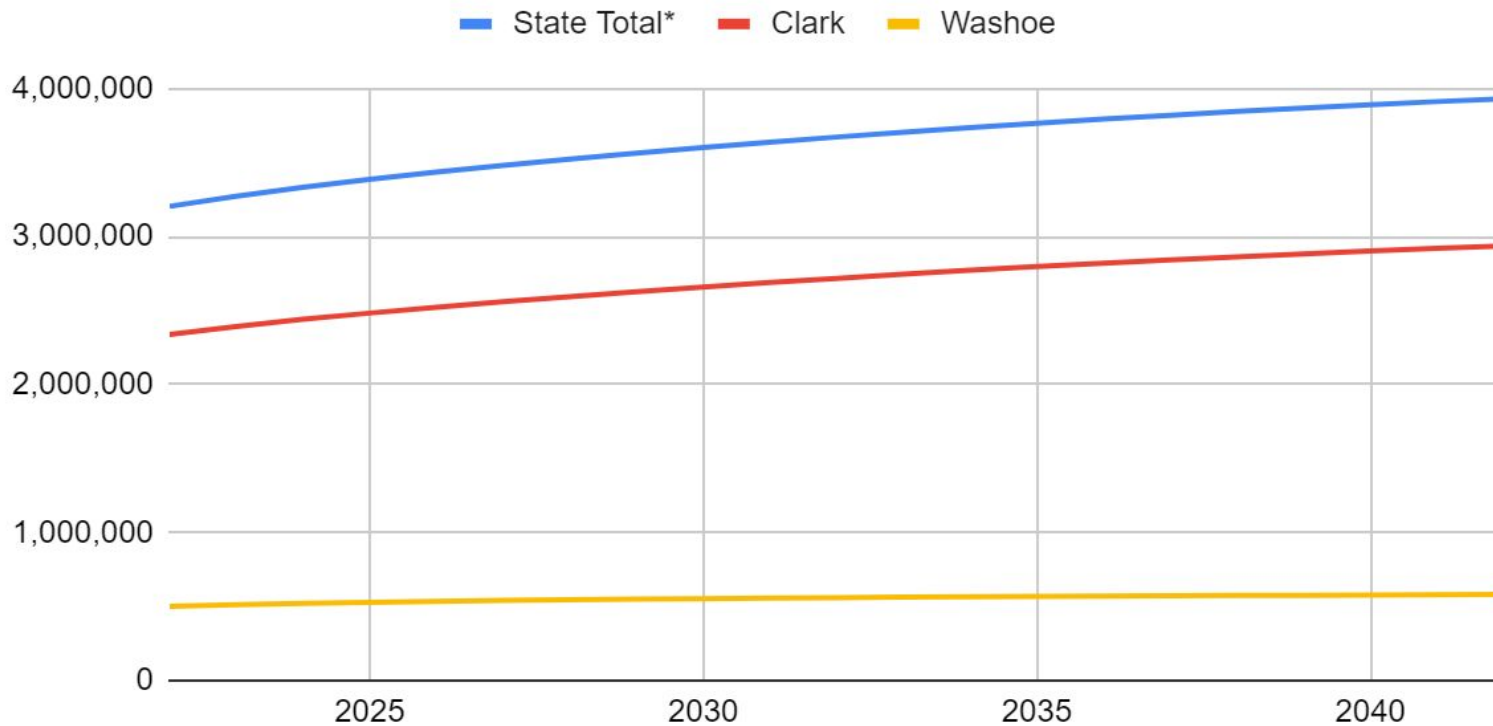
# POPULATION GROWTH ASSUMPTIONS - ALL SCENARIOS

Business as Usual

Business as Planned

Future Emissions Scenarios

## Population Growth



**More people**  
Over 4m people  
in Nevada  
in 2050

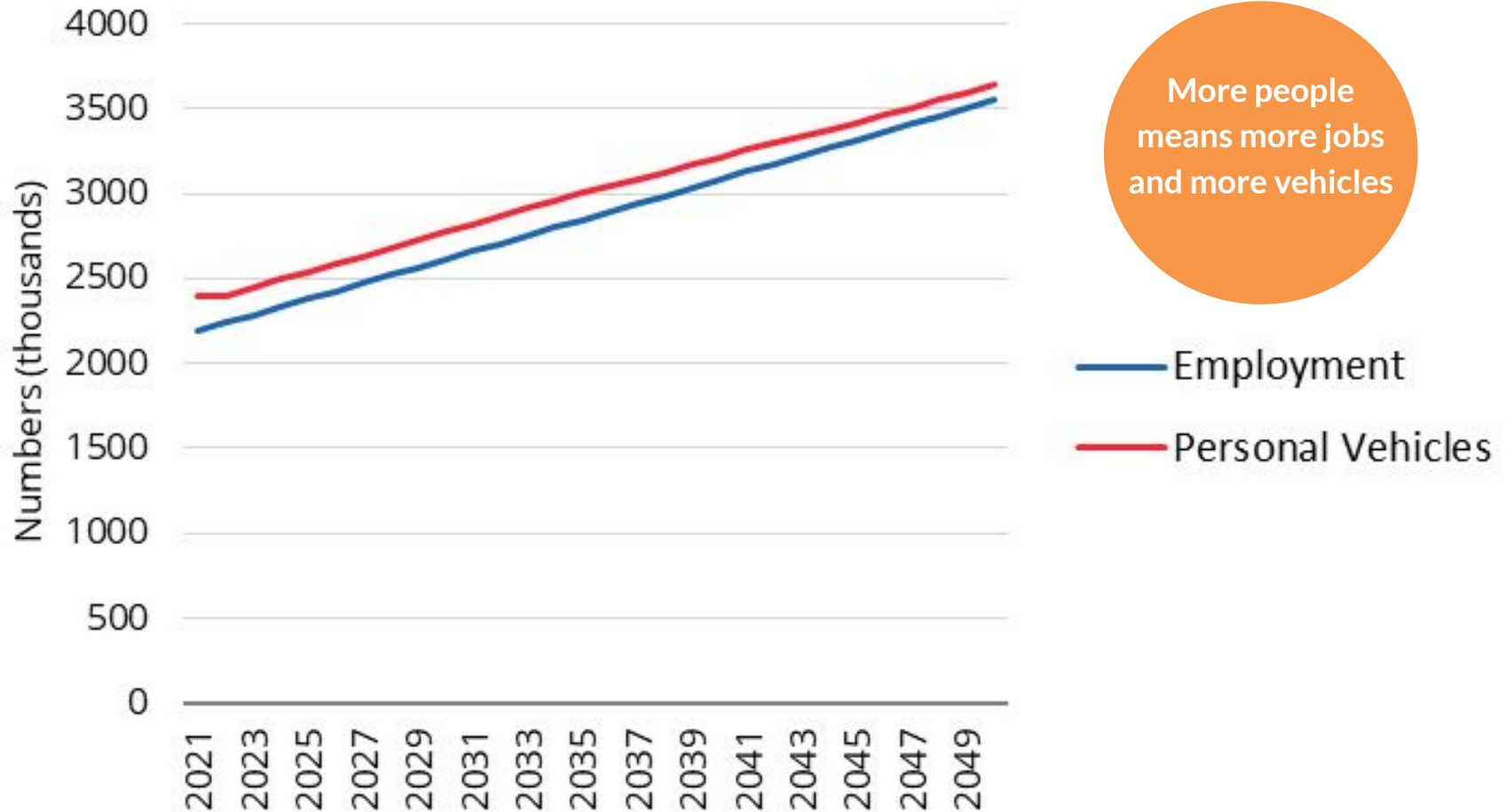
Source: [Nevada County Population Projections 2023 to 2042](#)

# POPULATION GROWTH ASSUMPTIONS - ALL SCENARIOS

Business as Usual

Business as Planned

Future Emissions Scenarios



Hotter Summers, Milder Winters  
More A/C, less heating



# CLIMATE ASSUMPTIONS - ALL SCENARIOS

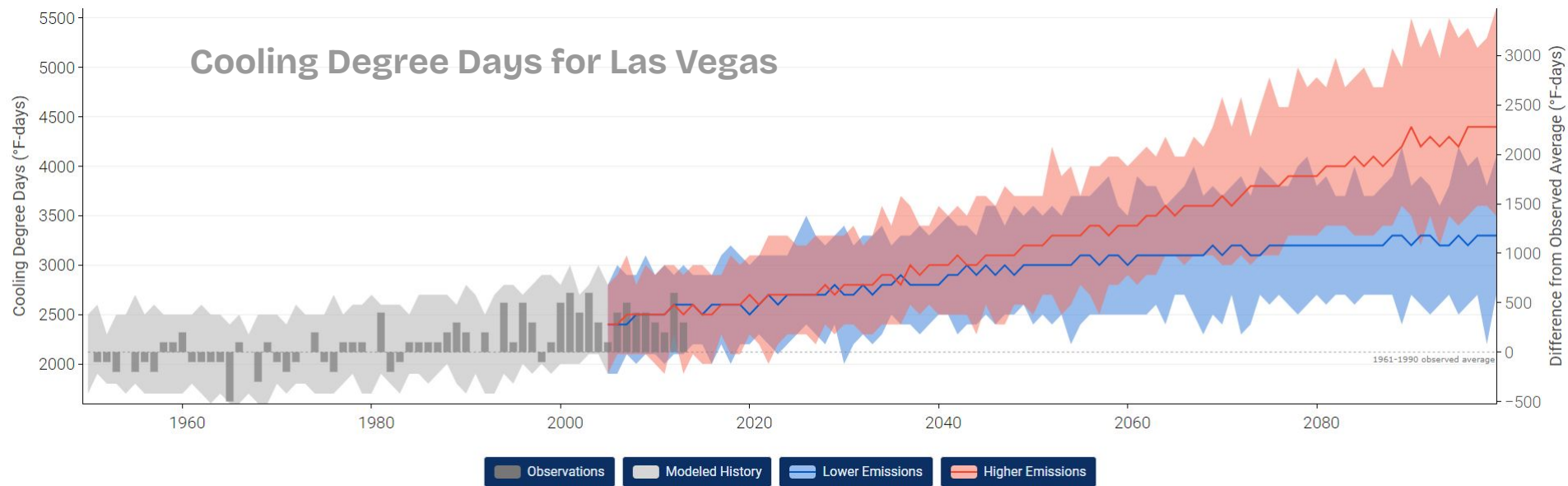
Business as Usual

Business as Planned

Future Emissions Scenarios

## Hotter summers and milder winters

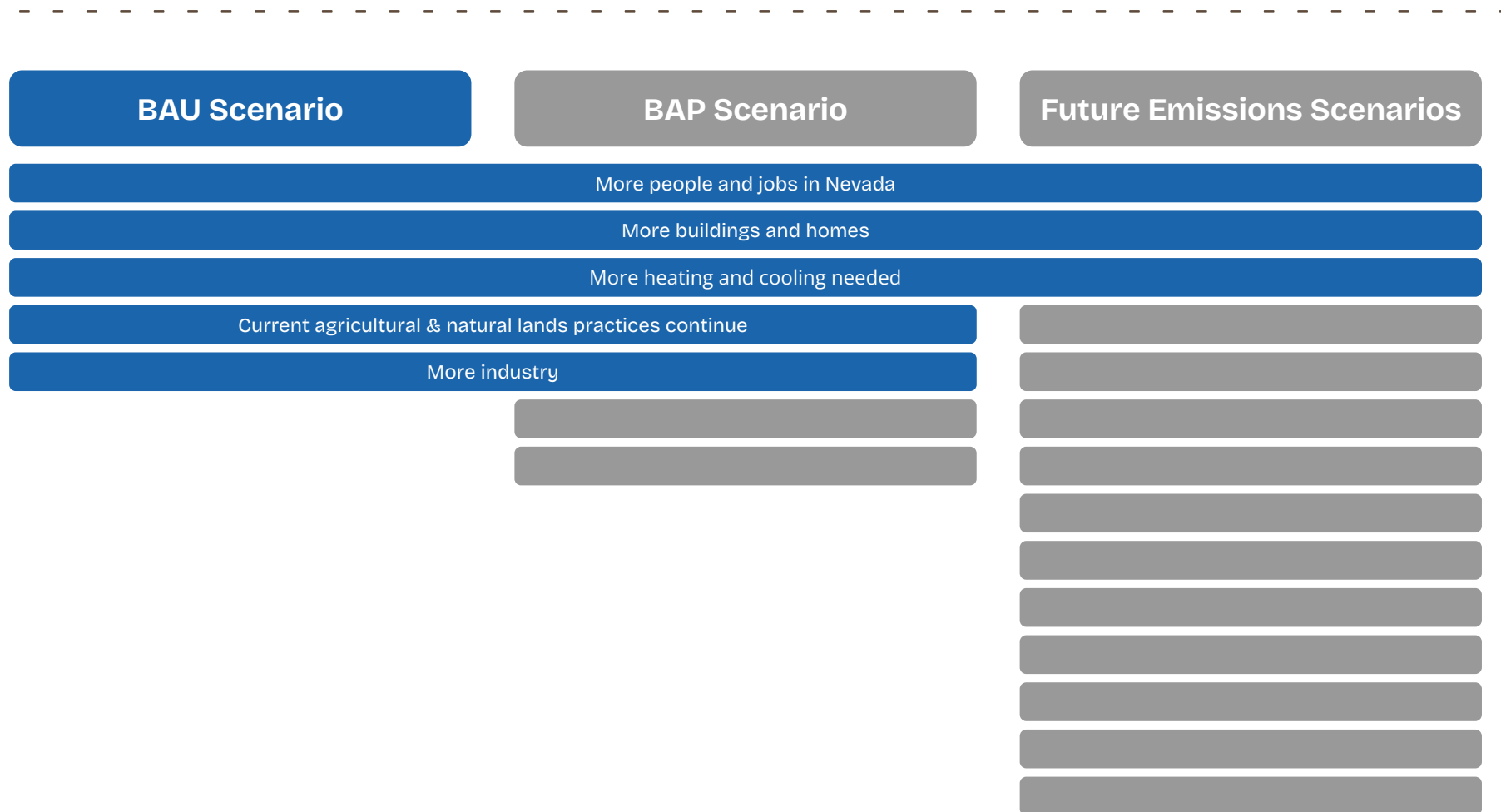
- Fewer days where heating is required
- More days when cooling is required





# Business as Usual Scenario Nevada 2050

## BAU ASSUMPTIONS





More people means more need for  
housing, transportation, employment,  
social & health services  
increasing emissions overall

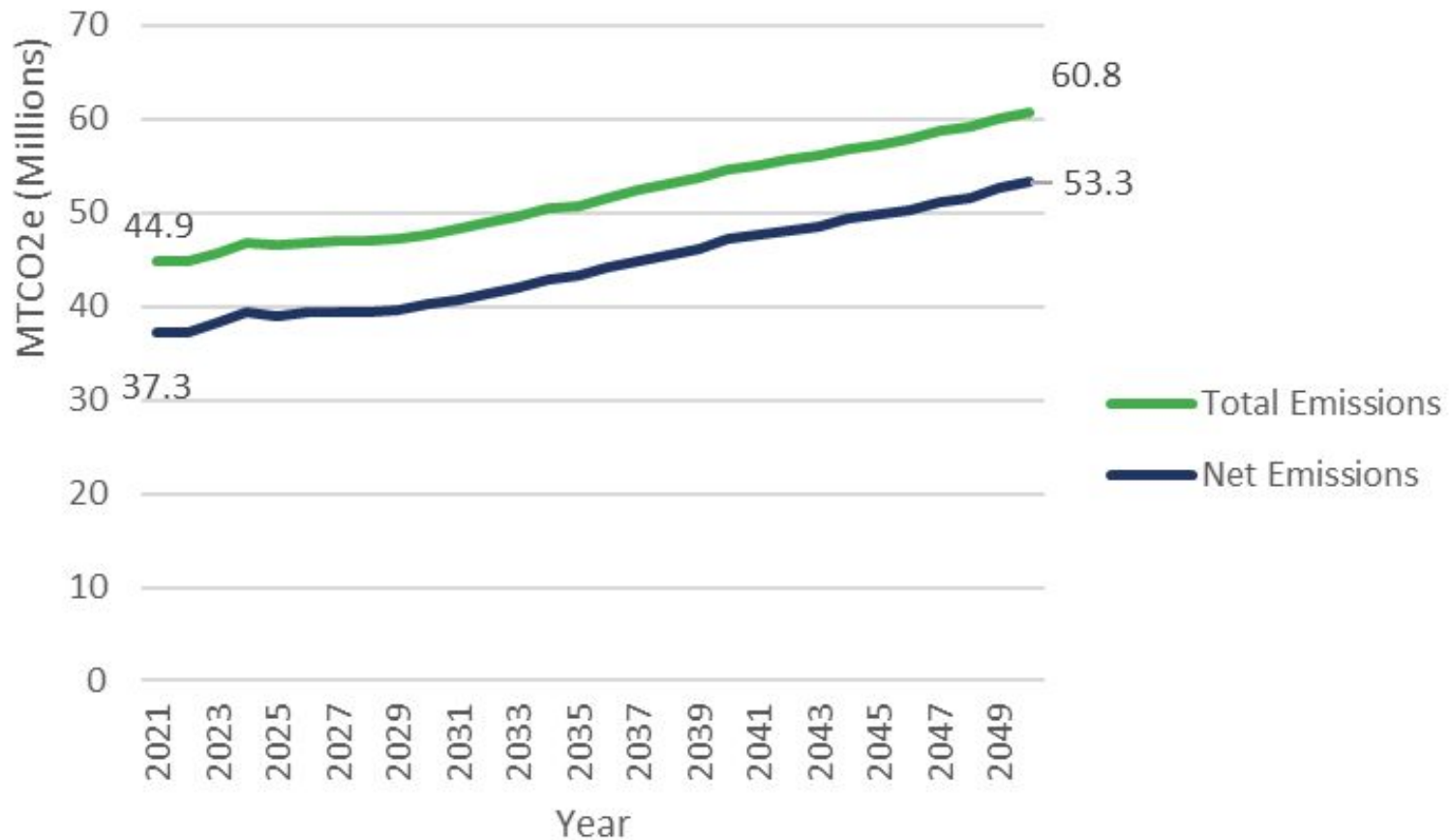




# TOTAL BAU EMISSIONS

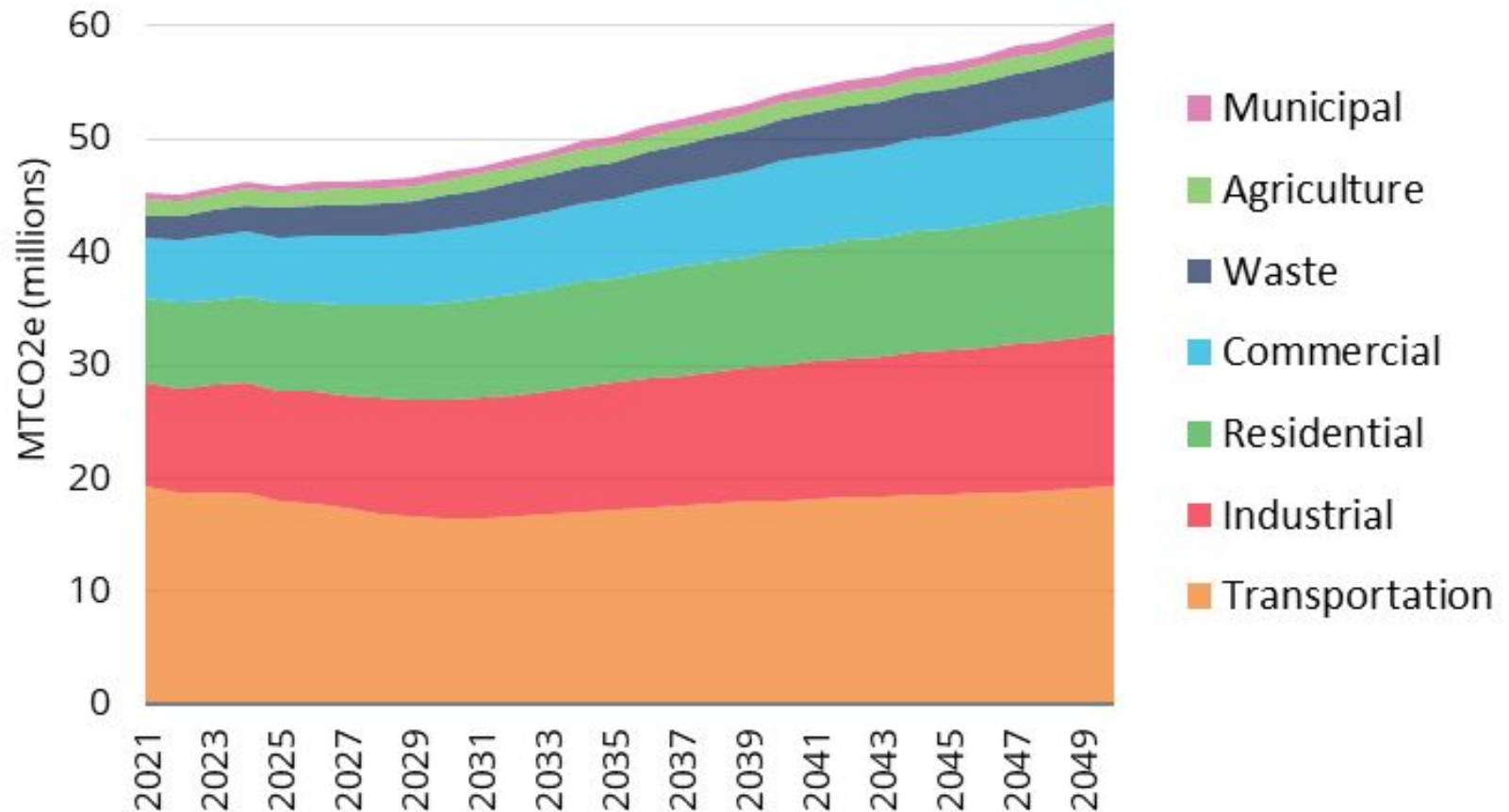
## Business as Usual

- 40% increase in emissions
- 15.1 MTCO<sub>2</sub>e increase
- Emissions rise to over 60 MTCO<sub>2</sub>e but are reduced by carbon sequestration



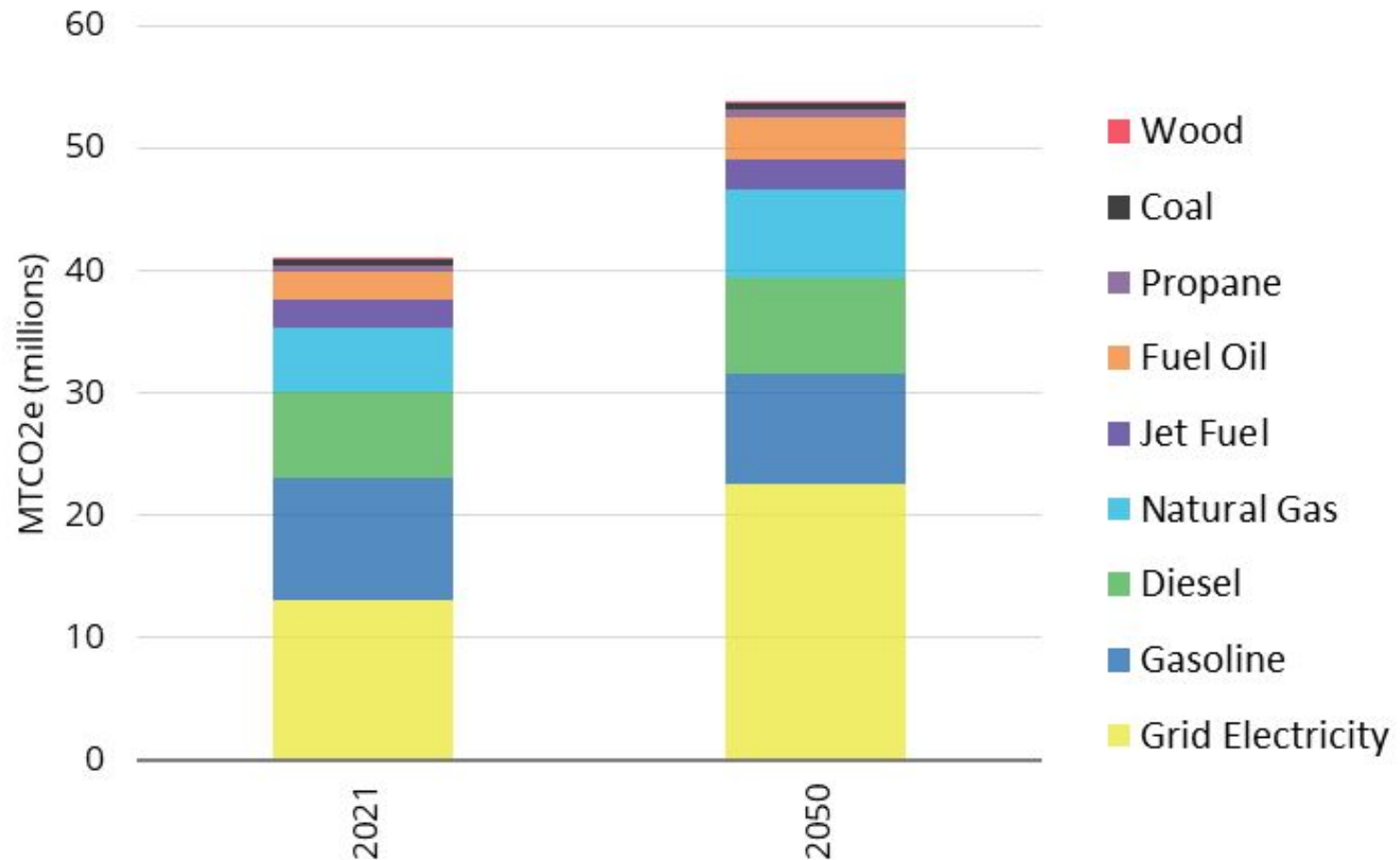
# BAU EMISSIONS BY SECTOR

## Business as Usual



# BAU EMISSIONS BY FUEL TYPE

## Business as Usual

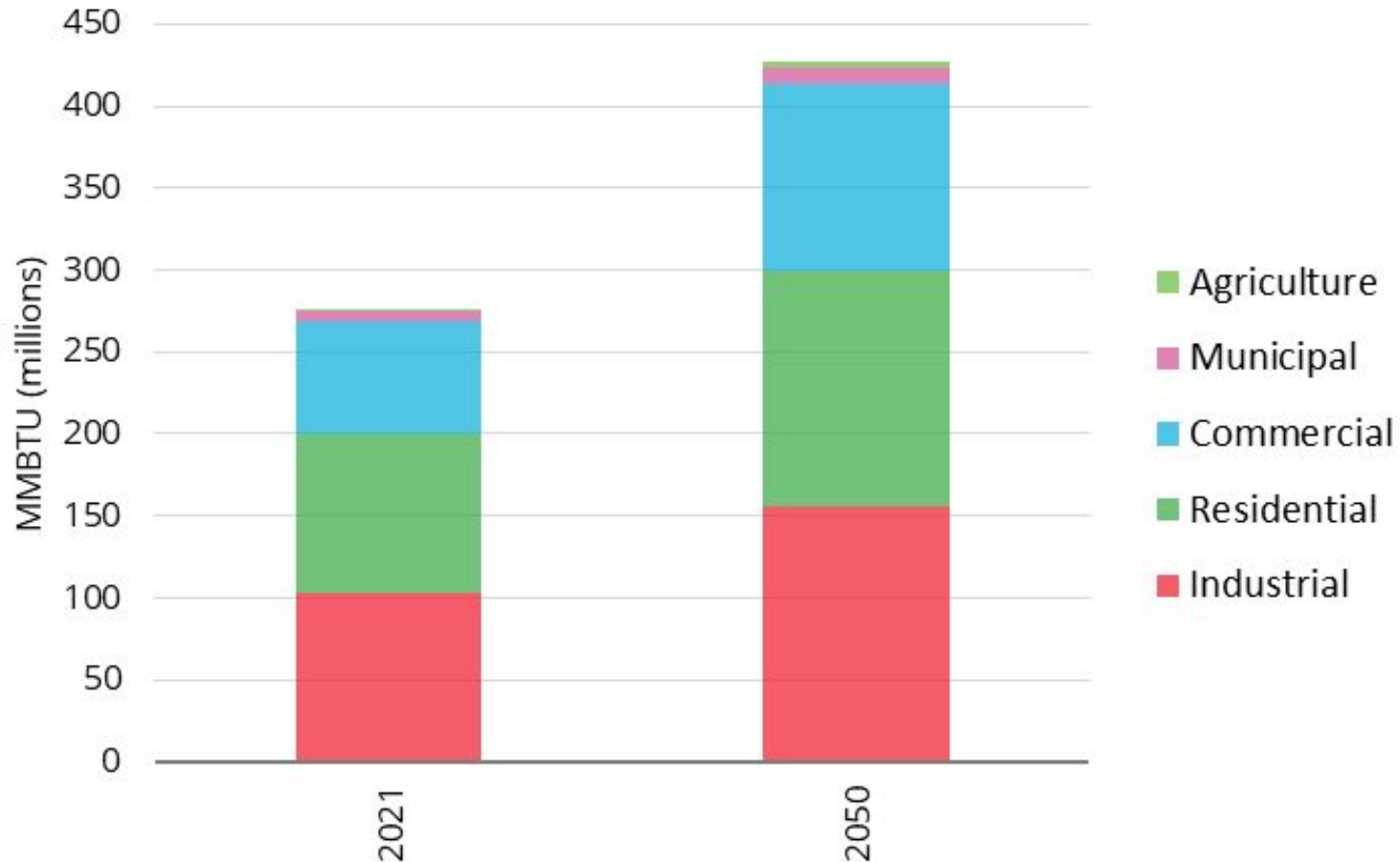


**More buildings will require more  
energy for heating, cooling, & lighting**



# BUILDING ENERGY INCREASES IN EACH SECTOR

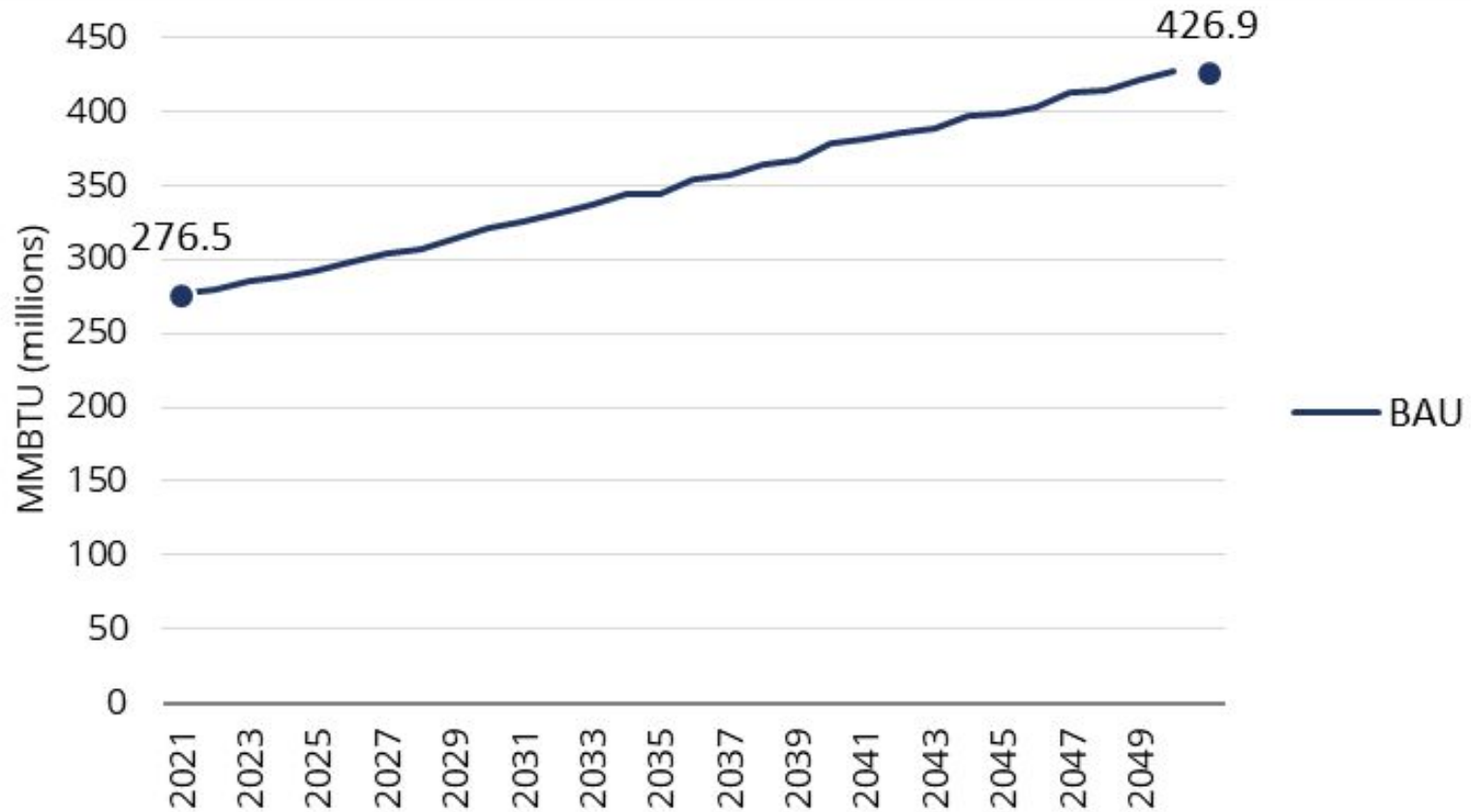
## Business as Usual





# INCREASED BUILDING ENERGY CONSUMPTION

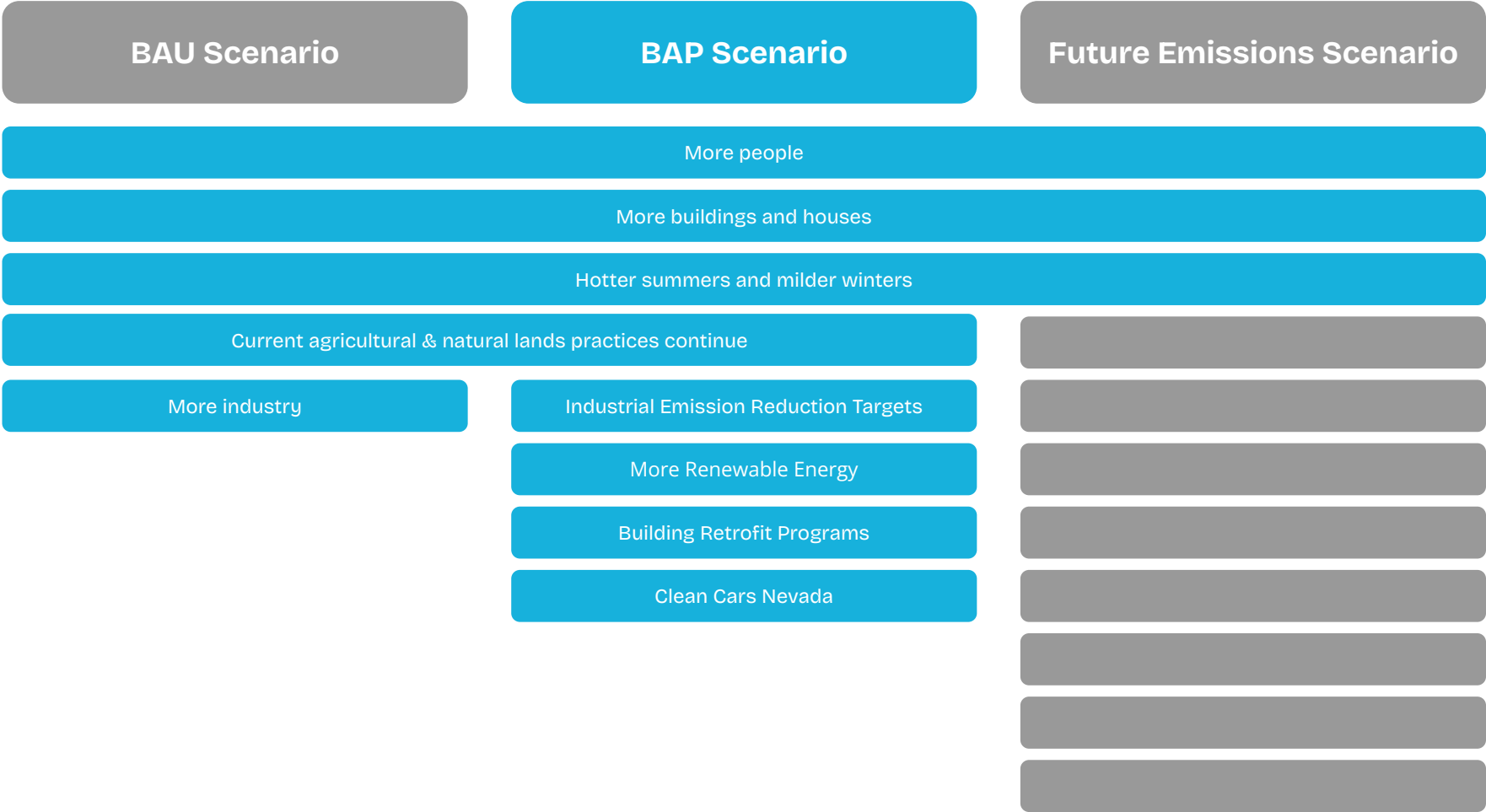
## Business as Usual



# Business as Planned Scenario Nevada 2050



# BAP ASSUMPTIONS



# Achieving Nevada's Renewable Energy Targets



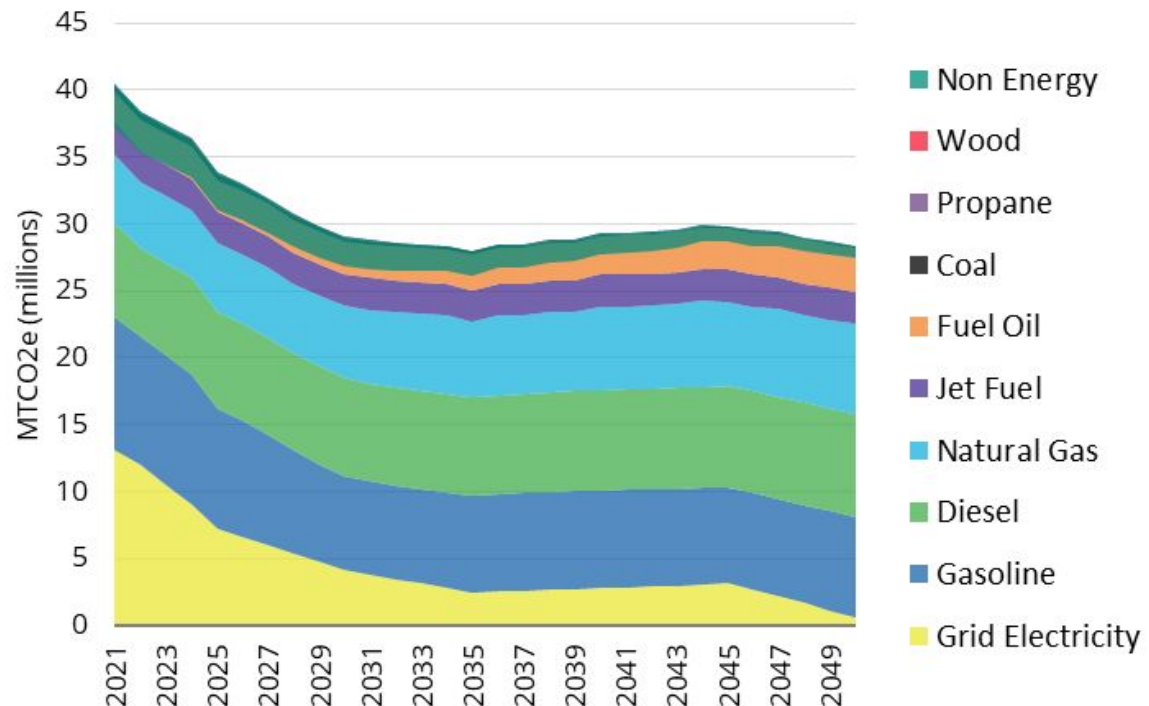


# RENEWABLE ENERGY GENERATION IMPACTS

BAP assumes Nevada will reach renewable energy generation targets set out in 2019 SB 358

- 22% in 2020
- 24% in 2021
- 29% in 2022 and 2023
- 34% in 2024 through 2026
- 42% in 2027 through 2029
- 50% in 2030
- Achieve zero-emission energy production by 2050

## Clean Electricity reduces energy emissions overall

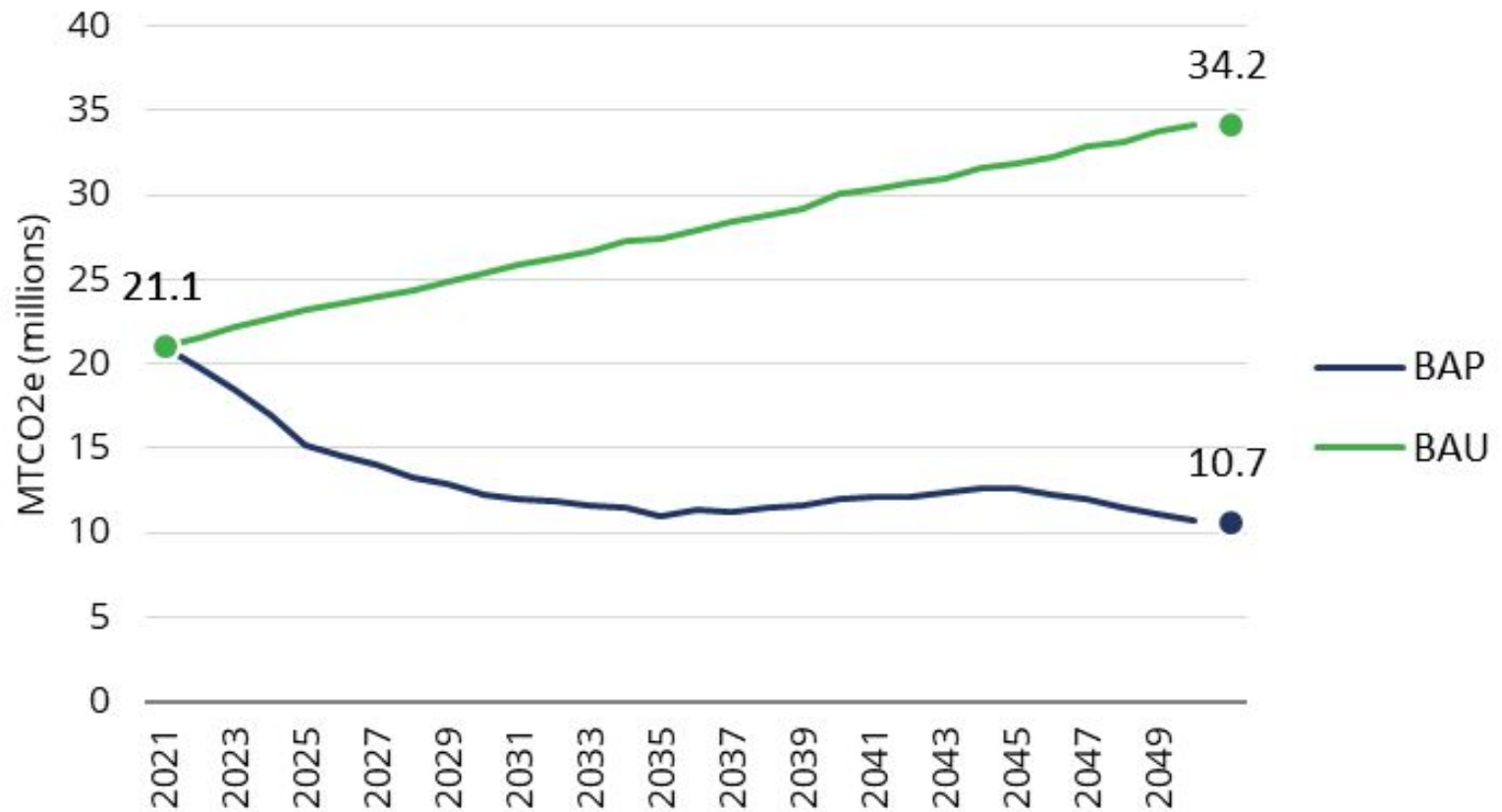


Cleaner electricity means fewer  
GHG emissions from buildings



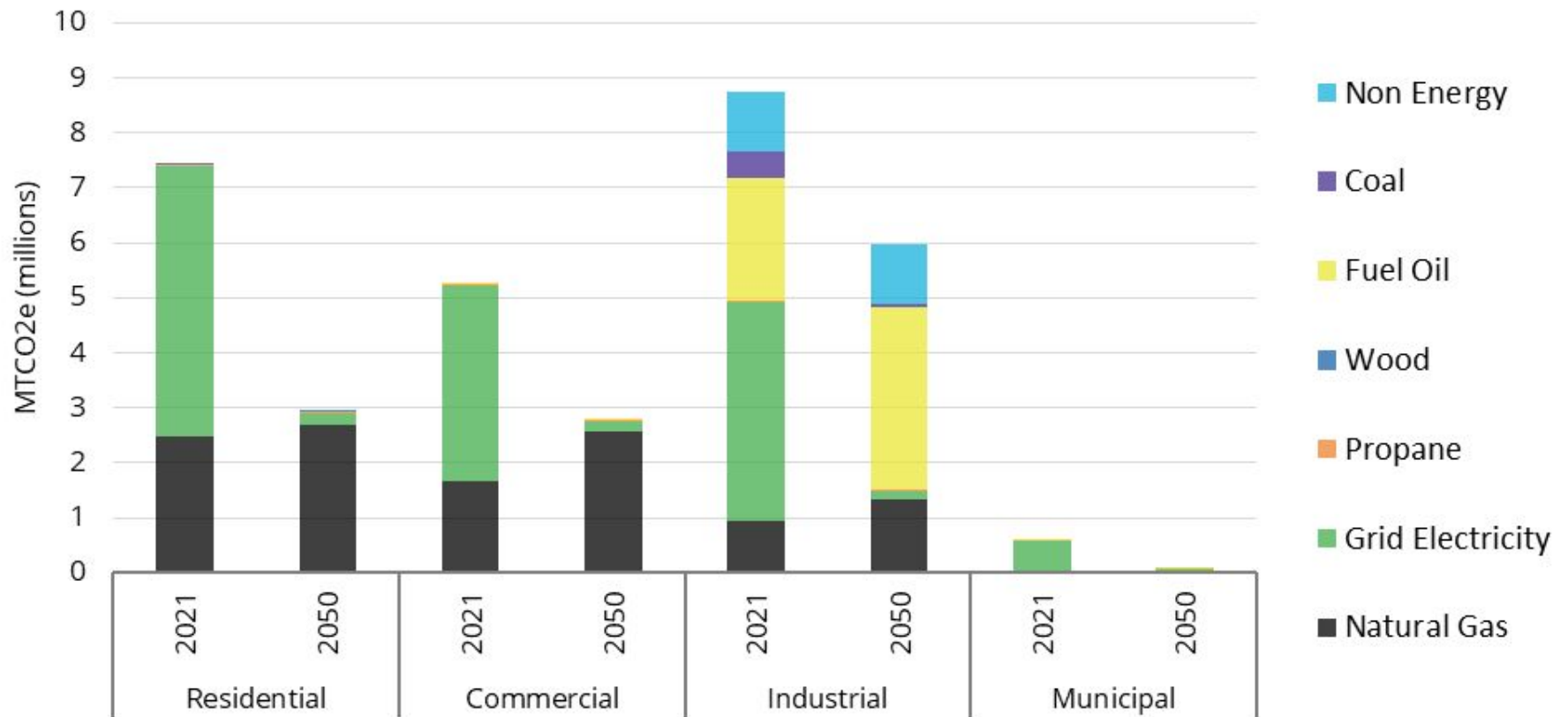
# REDUCED BUILDING EMISSIONS

## Total Building Sector Emissions



# REDUCED BUILDING EMISSIONS

## Total Emissions by Sector by Fuel Type



**Clean Cars Nevada takes  
emissions off the road**



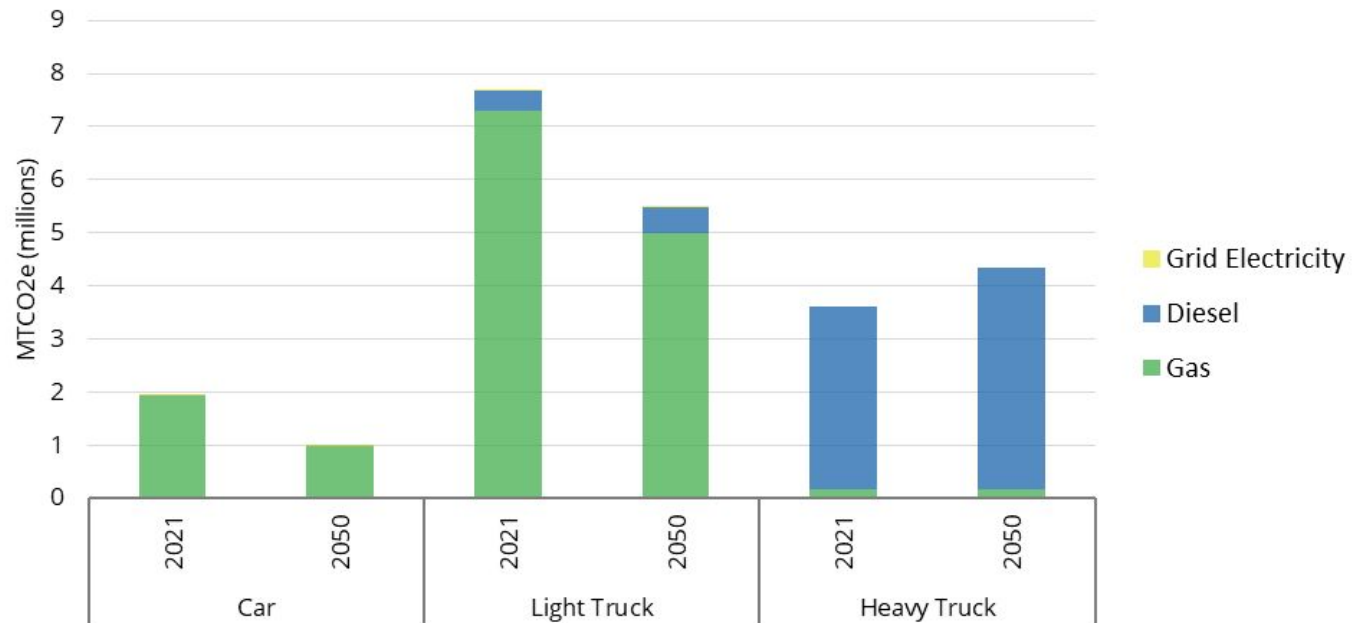


# POLICY IS DRIVING DOWN EMISSIONS

## Business as Planned

### Nevada policies and programs accelerate EV adoption

- Requirements for % of ZEV produced by manufacturers
- Tailpipe efficiency and emissions requirements
- Increased adoption of EVs





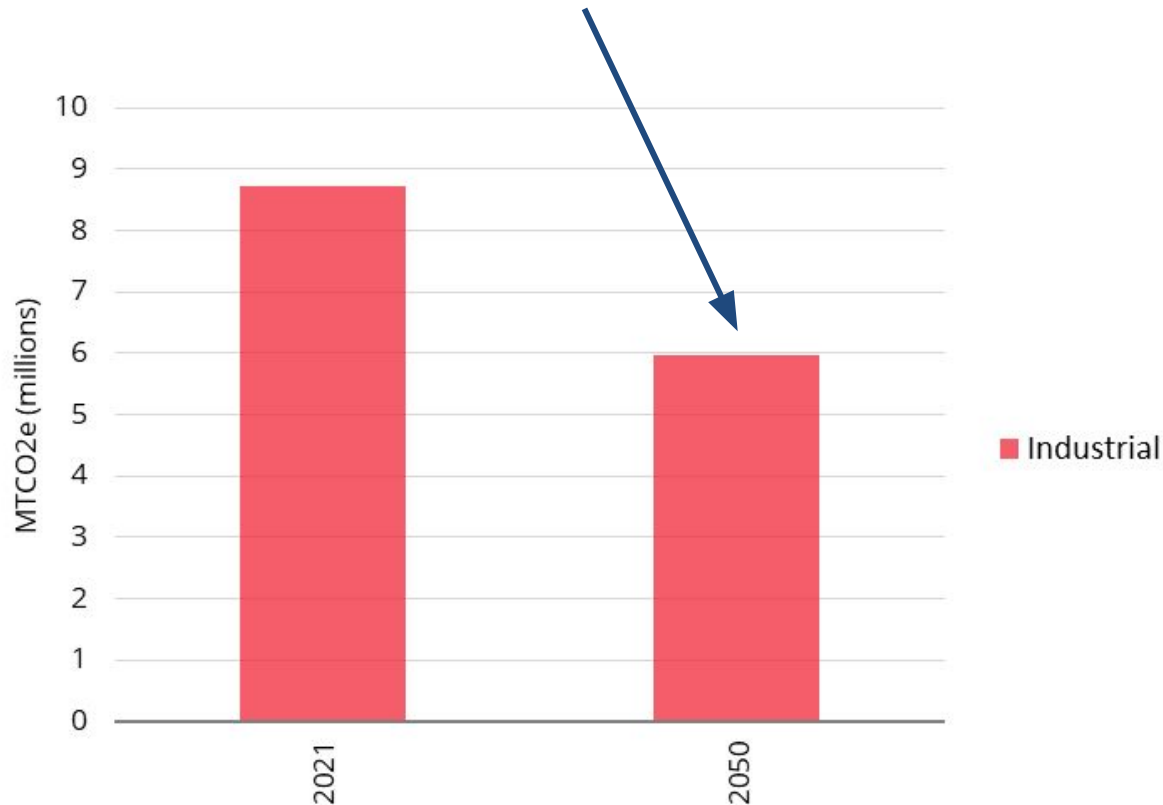
**Industry commitments advance Nevada's  
emission reduction goals**



# COMMITMENTS BY INDUSTRY

## Business as Planned

Barrick Mining (Nevada Gold Mines) and other businesses have set short-, medium-, and long-term emission reduction targets and are tracking their progress.







**Policies and programs are making a difference but fall short of reaching the State's targets**



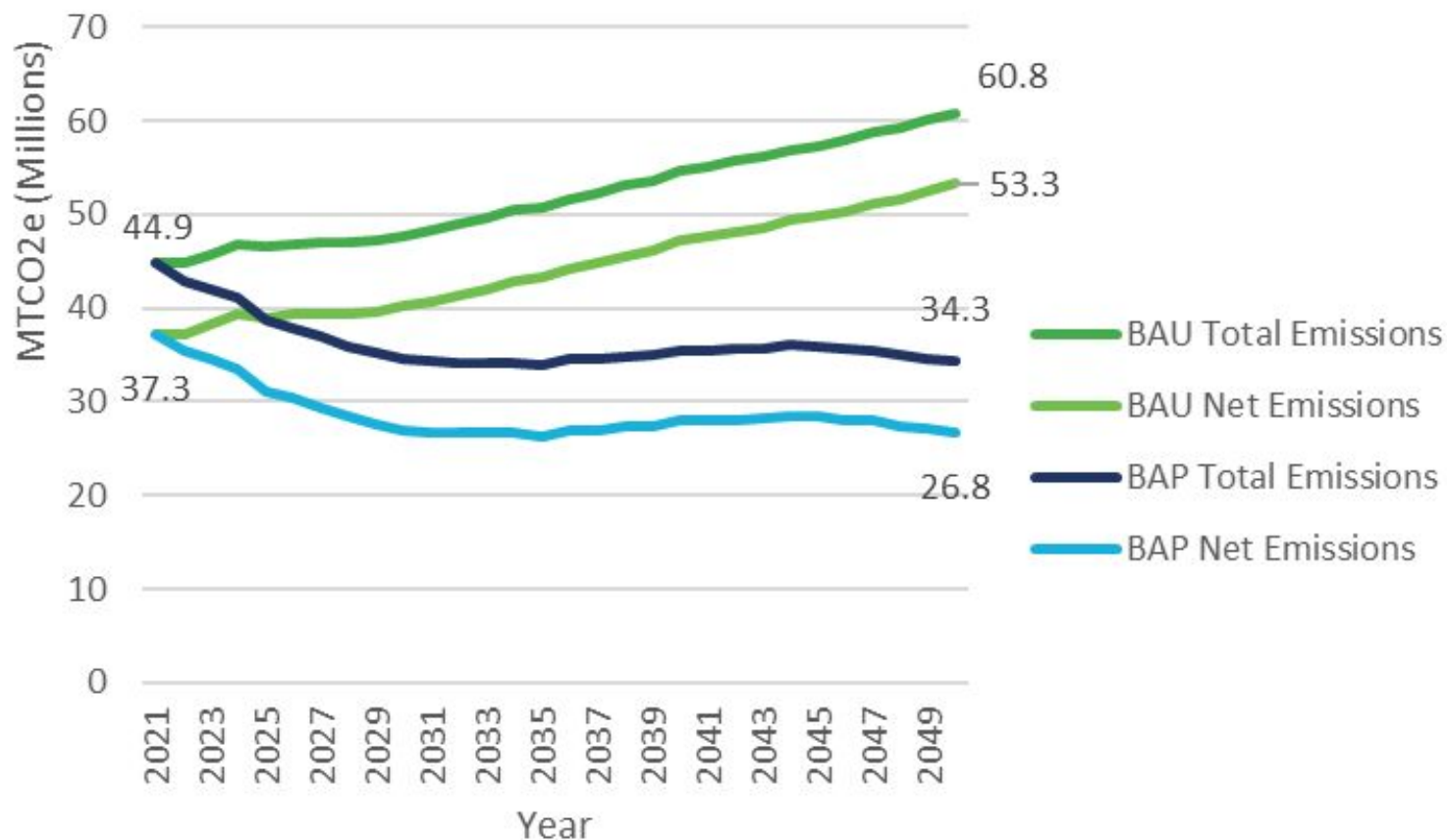
# SUMMARY: BAU vs. BAP SCENARIOS

## Total Emissions

Business as Usual

Business as Planned

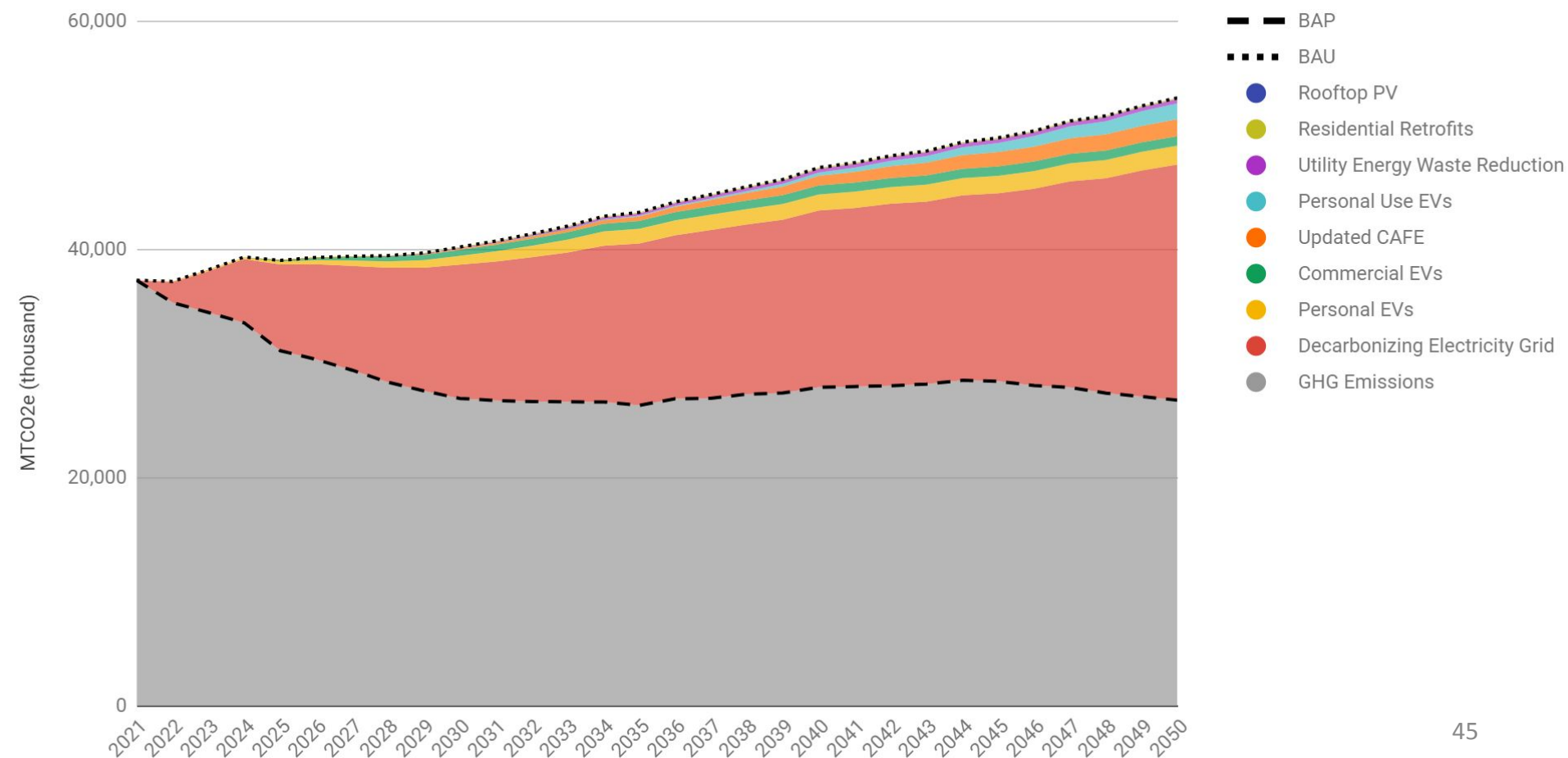
## Total Emissions



# BAP SCENARIO - POLICY & PROGRAM IMPACTS

## Business as Planned

### Emission reductions from current policy and programs



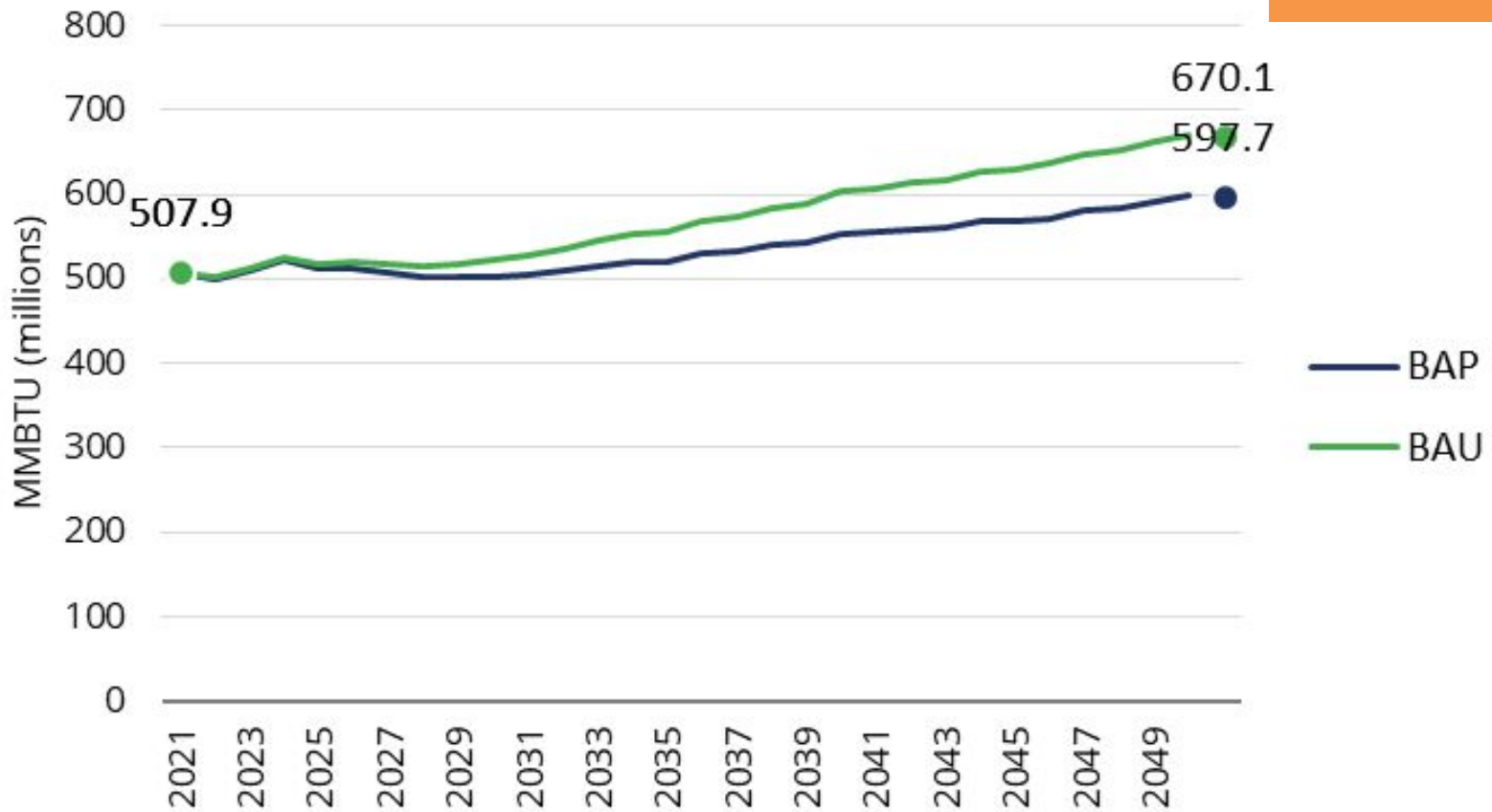
# SUMMARY: BAU vs. BAP SCENARIOS

Business as Usual

Business as Planned

Opportunities to  
further increase  
energy efficiency

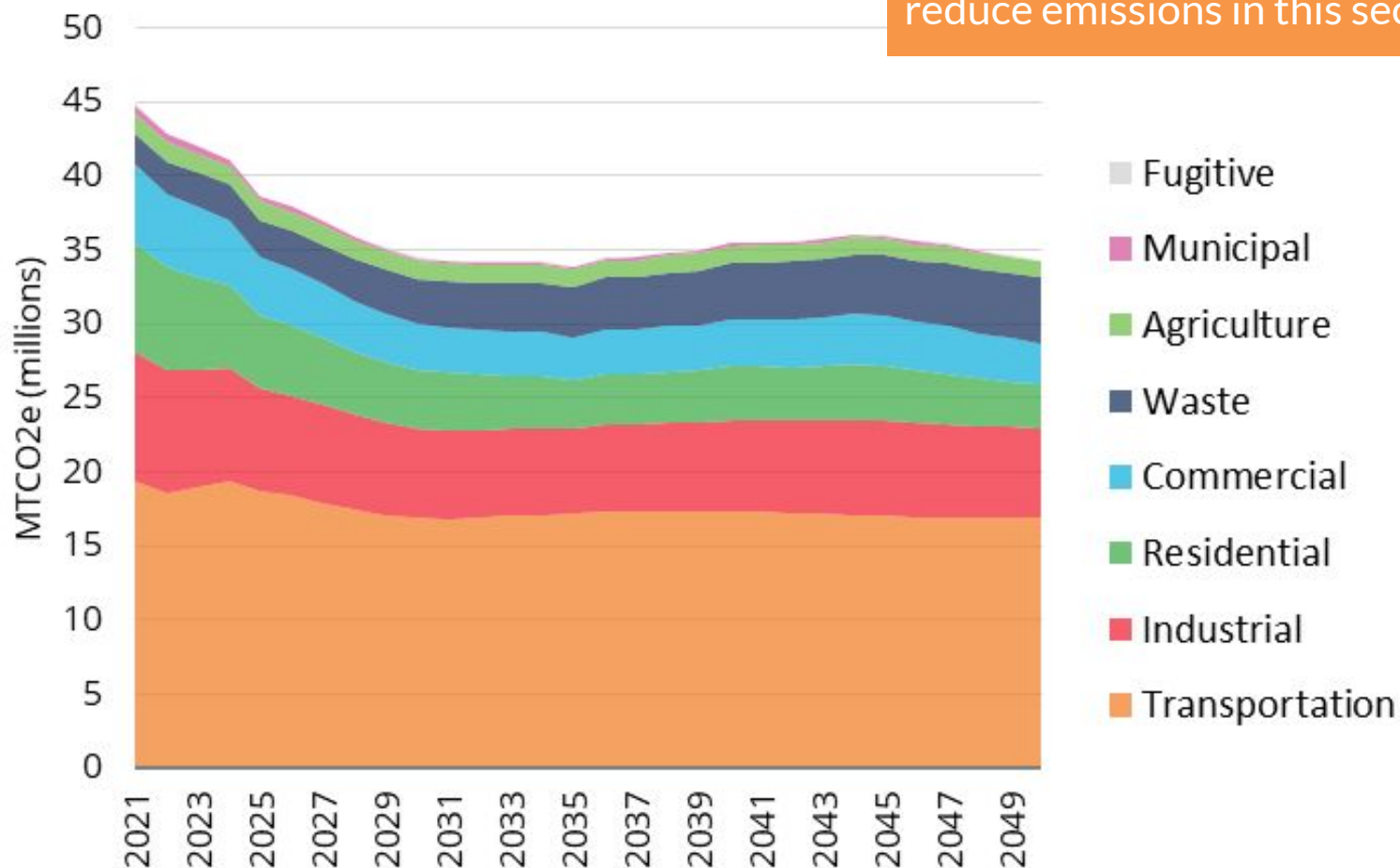
## Total Energy Use



## SUMMARY: BAP OPPORTUNITIES

### Business as Planned

### Emission by Sector



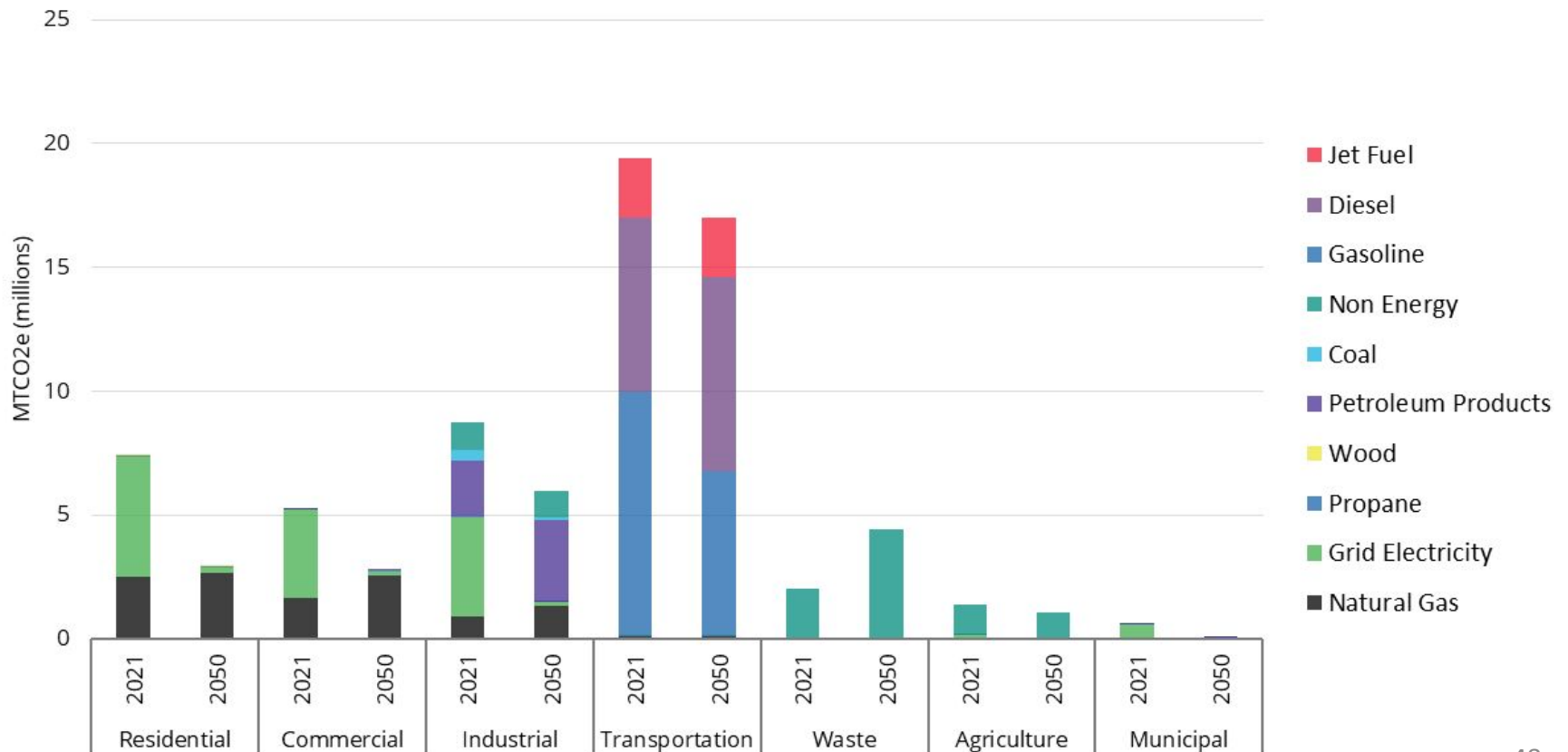
Transportation is the largest emitter and will need the most action to reduce emissions in this sector

# SUMMARY: BAP OPPORTUNITIES

## Business as Planned

Actions targeting emissions in freight and personal use vehicles are needed for Nevada to achieve its climate goals

### Emissions by Sector by Fuel Type





# Questions & Discussion

## QUESTIONS & DISCUSSION

---

Would you like any clarifications about the data or process?

Do you see any gaps?

# Exploring Scenarios



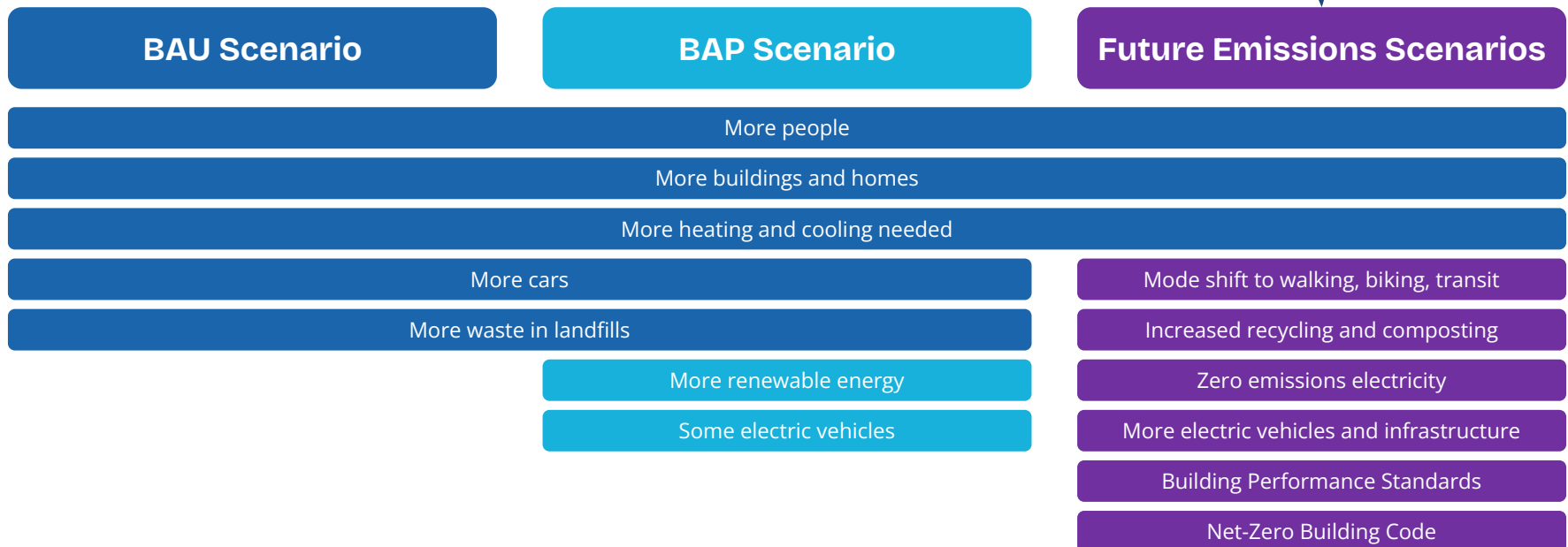
Chicken

# DISCUSSION

## EXPLORING SCENARIOS

---

What are the key concepts or assumptions that should be considered in the future emissions modeled scenarios?



# DISCUSSION

## EXPLORING SCENARIOS

---

Link to Miro board in meeting chat for recording input.

Examples:

- Renewable Future (focus on clean energy)
- Mixed Fuels (X ratios of various fuel sources)
- Status Quo (undesirable fossil fuels use in 2050)

Considerations:

- Impact on emissions (positive and negative!)
- Feasibility and innovation
- Challenges and barriers to implementation
- Opportunities to implementation

Next Steps



# TWG MEETINGS

---

- Meeting 2 In Person, Location TBD (February 2025)
  - Emission Reduction Scenarios
  - Financial, Workforce, and Equity Analyses
- Meeting 3 Online (May 2025)
  - Engagement Findings
  - Final Draft CCAN

# Comments



Please share  
input at any time.

---

[ndep.nv.gov/air/climate-pollution-reduction-grant](https://ndep.nv.gov/air/climate-pollution-reduction-grant)

Email: [ndep.cprg@ndep.nv.gov](mailto:ndep.cprg@ndep.nv.gov)

# Feedback



Provide input on  
this session.

---

Link in the chat.