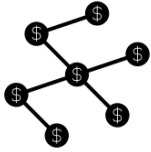




# Nevada's New Energy Economy

SB 448

# Nevada has a unique opportunity to expand its clean energy economy to:



**Provide economic diversity**



**Provide New Tax Revenues**



**Create new, high paying jobs**



**Decrease carbon emissions  
and air pollution**



**Increase electric grid resiliency**



**Increase economic and  
environmental justice**

# Nevada is positioned to be a leader in clean energy



## Nevada has almost no fossil fuels

- ★ We spend **\$8 billion dollars annually** importing petroleum, natural gas, oil and coal



## Abundant Renewable Resources

- ★ Located in the best solar resource zone in the US
- ★ Second highest geothermal production in the US
- ★ Largest lithium potential in North America



## Geography

- ★ Located in the center of the Western energy market
- ★ Adjacent to North America's largest electrical load and economy (California)
- ★ Existing Transmission Infrastructure (Mead, Marketplace, Eldorado Substations)
- ★ Only operating lithium mine in North America

## Nevada's Potential Economic Opportunities

\*Regional hub for the Western Energy Grid\*

\*Exporter of zero carbon energy\*

\*Top state for energy storage industry\*

\*Regional leader on transportation electrification\*



## Workforce

- ★ Well established, high-tech mining industry
- ★ Established unions and apprenticeships
- ★ Leaders in construction industry
- ★ Universities and research facilities



## Infrastructure

- ★ Relatively new roads, rails, and airports
- ★ New transmission and distribution systems
- ★ International travel hub



## Business Climate

- ★ Easy business start up
- ★ No corporate income tax
- ★ Programs to support energy projects

# Bill Components

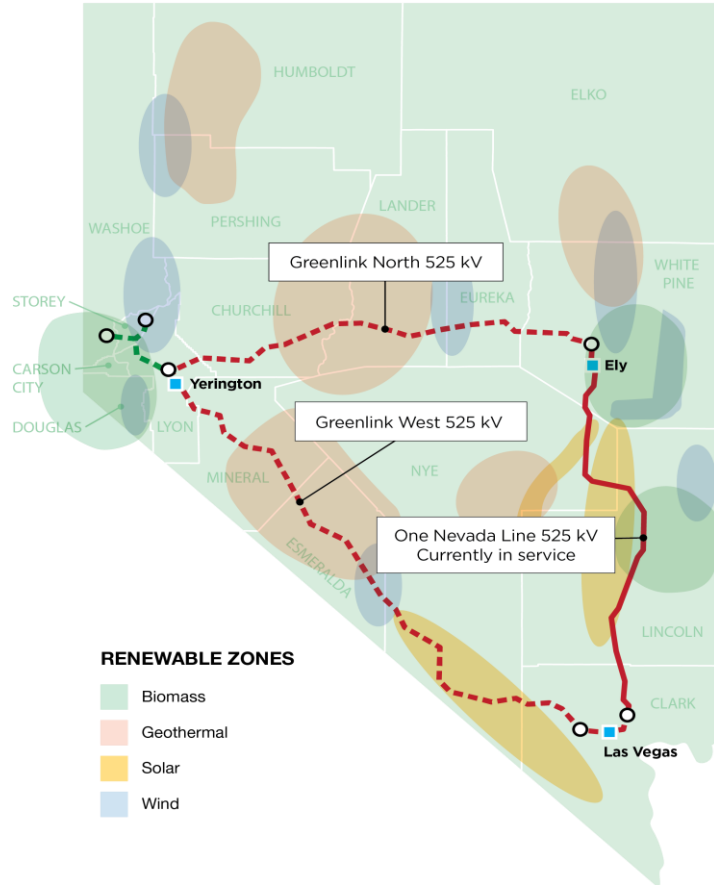
- I. Transmission Infrastructure
- II. Transportation Electrification
- III. Energy Efficiency
- IV. Rooftop Solar
- V. Resource Planning to Reduce Carbon Emissions
- VI. Energy Storage
- VII. Economic Development Rate Rider Program
- VIII. Regulatory Cleanup Provisions

# Transmission Infrastructure

- ❖ Requires filing of a high-voltage transmission infrastructure plan with the Commission by September 1, 2021
- Nevada needs a strong high-voltage transmission network to
  - Assure a reliable and resilient transmission grid that will accommodate future growth
  - Assist electric utilities in meeting clean energy goals in an efficient and cost-effective way
  - Assist in Nevada's policy goal of promoting economic development
  - Expand transmission access to renewable energy zones to promote the use of renewable energy.
  - Support development of regional transmission interconnections needed for Nevada's full participation in a future competitive regional wholesale electricity market



# Transmission Infrastructure



- Greenlink Nevada is a new renewable energy and electrical infrastructure initiative that will make Nevada a leader in the clean energy economy
  - Move Nevada closer to a future powered by 100% renewable energy
  - Reduce Nevada's carbon footprint
  - Generate \$690 million in economic activity
  - Create nearly 4,000 good-paying jobs
  - Improve system reliability and transfer capacity within the state and to other states
  - Lower energy costs are expected to help offset the cost of construction

# Transmission Infrastructure

- ❖ Requires every transmission provider to join a regional transmission organization (RTO) by 2030
- ❖ Creates the Regional Transmission Coordination Task Force

➤ To advise on:

- Potential costs and benefits to transmission providers and customers of forming or joining an RTO
- Policies that will accommodate entrance into an RTO by transmission providers
- Policies that will site transmission necessary to achieve the State's clean energy and economic development goals
- Potential areas where growth in demand for electricity or renewable energy generation would be accommodated by additional transmission or RTO opportunities
- Businesses and industries that could locate in this State as a result of our position in an RTO

- *Includes representatives from electric utilities, transmission providers, labor organizations, essential Nevada industries, environmental and public lands advocates, members of the public, and more*

## Benefits of RTOs



Cost savings for customers



Reliable Integration of Renewable Energy



Facilitate import and export of energy



Balance supply and demand



Coordinate regional planning

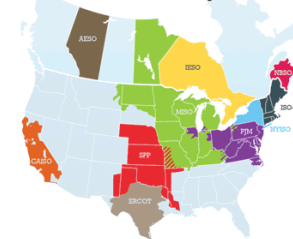
ISO/RTO Growth by 1998



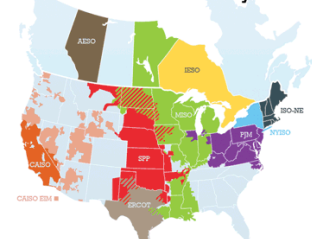
ISO/RTO Growth by 2002



ISO/RTO Growth by 2012

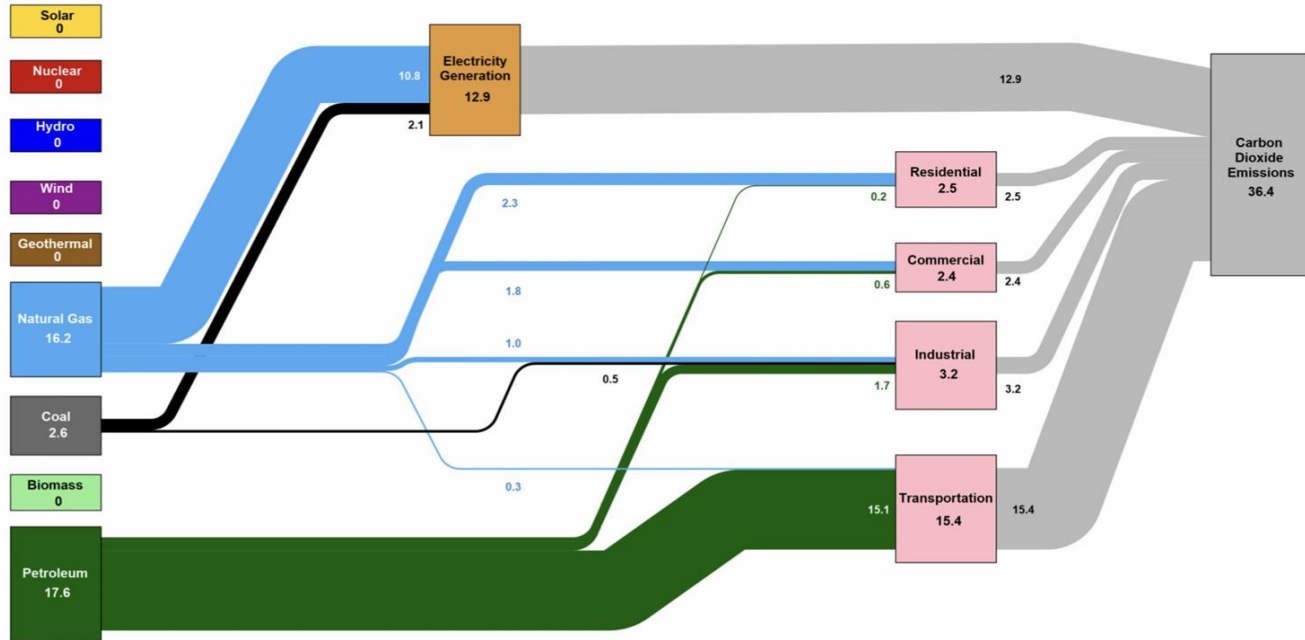


ISO/RTO Growth Today

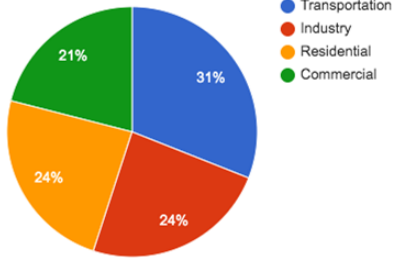


# Transportation Electrification

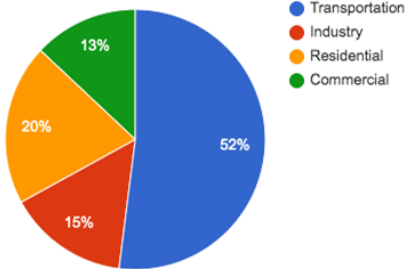
Estimated Nevada Carbon Dioxide Emissions in 2017: 36.4 Million Metric Tons



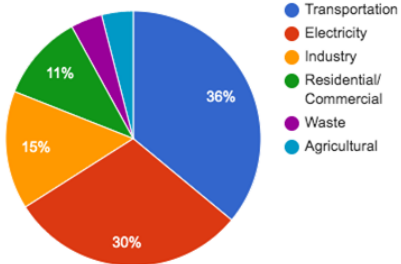
Nevada Energy Consumption by Sector, 2017



Nevada Energy Expenditures by Sector, 2017



Nevada Greenhouse Emissions by Sector, 2017

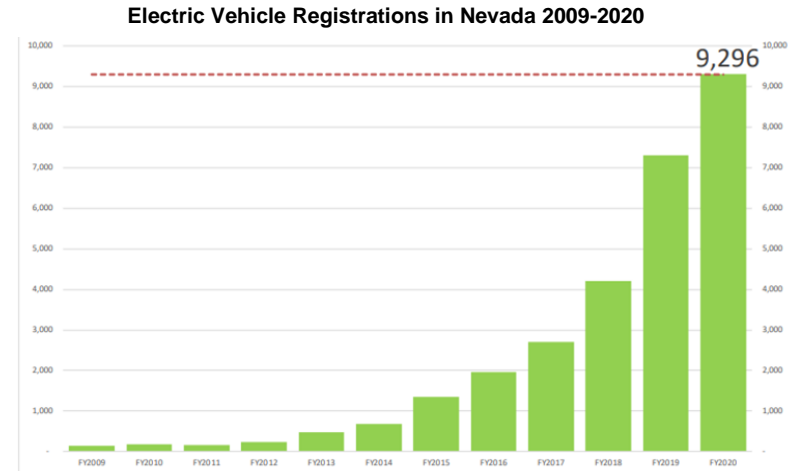


➤ The transportation sector accounts for the most energy **consumption**, **expenditures** and greenhouse gas **emissions** in Nevada



# Transportation Electrification

- 2.8 million Nevadans live with poor air quality, with Las Vegas and Reno ranking particularly high nationally for ozone and short-term particle pollution levels
- Nevada's only major auto parts manufacturing plant makes parts (motors and battery packs) for electric vehicles
- There were 9,296 electric vehicles registered in 2020. To get on a path to “near zero” emissions by 2050, this will need to increase to about 244,000, or 17% of all vehicles, by 2030.



# Transportation Electrification will save Nevadans billions of dollars

**\$ 21 billion** in cumulative net-benefits by 2050:

## \$14.1 Billion in Driver Savings

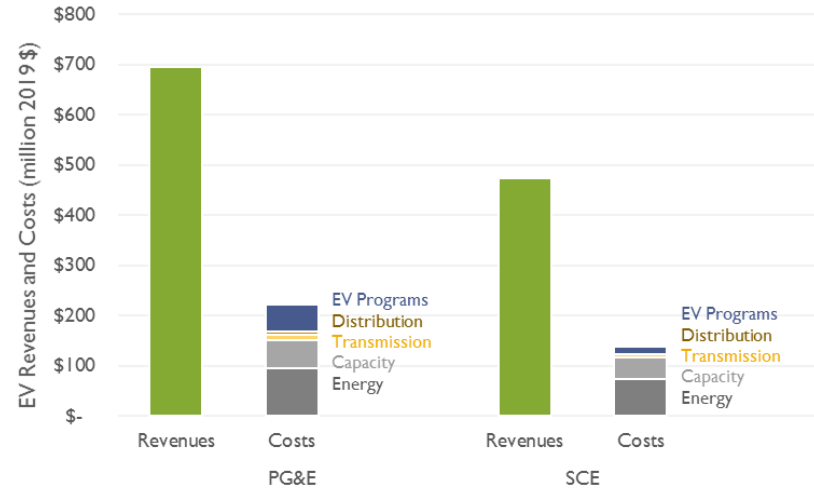
Driving on electricity is significantly cheaper  
EVs require less maintenance

## \$3.6 Billion in Reduced Electric Bills

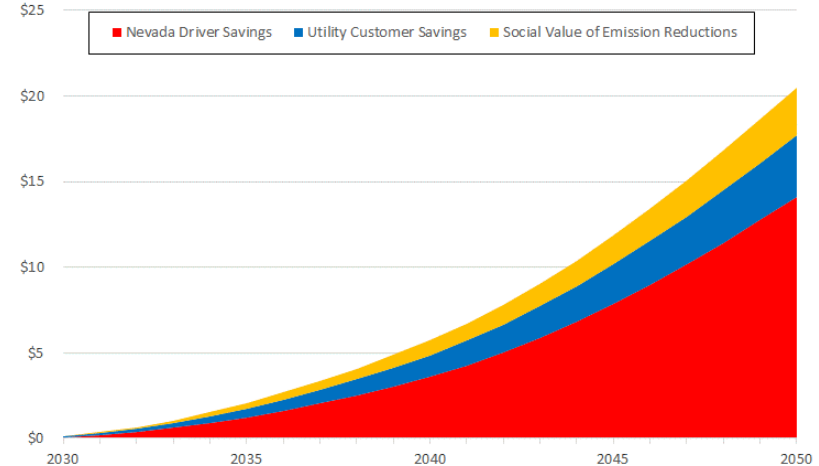
New utility revenue from EV charging could reduce collective electric utility bills in Nevada by \$3.6 billion

## \$2.8 Billion in Societal Benefits from Reduced Pollution

Environmental and health benefits, especially for young children and those with respiratory conditions  
Switching to electric vehicles can help save Nevadans \$745 million in public health spending annually



NPV Cumulative Net Benefits from Plug-in Vehicles in Nevada  
(State GHG Goal Scenario- Off-Peak Charging - Low Carbon Electricity)  
\$ billions



# Transportation Electrification

❖ Requires electric utilities to submit plans to invest up to \$100 million in transportation electrification during 2022-2024.

➤ **5 types of programs**

- Interstate Corridor Charging Depot
- Urban Charging Depot
- Public Agency Charging
- Transit, School Bus and Transportation Electrification Custom Program
- Outdoor Recreation and Tourism

➤ **40% must be invested in historical-underserved communities**

➤ **20% must be invested in the Outdoor Recreation and Tourism Program**

❖ Starting September 2022, requires electric utilities to include plans to accelerate transportation electrification in their integrated resource plan

➤ **May include investments, incentives, programs, rate designs, or management systems with the following goals**

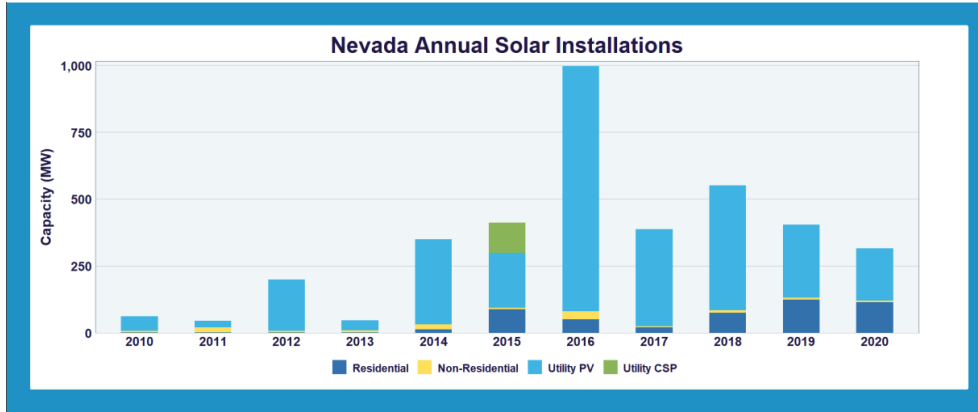
- Deployment of residential charging infrastructure
- Electrification of public transit and publicly owned vehicle fleets
- Increase access in historically underserved communities
- Charging that supports the operation and optimal integration of transportation electrification into the electric grid
- Increase awareness of such investments, incentives, rate designs and programs, and of the benefits of transportation electrification

# Energy Efficiency

- ❖ Doubles spending on utility energy efficiency programs for low-income customers and historically underserved communities
  - *Current law requires at least 5% of energy efficiency plan expenditures directed to programs for low-income households*
  - *Bill requires at least 10% of energy efficiency plan expenditures be spent on measures for customers in low-income households, and residential customers and public schools in historically underserved communities*
  - *Energy efficiency programs with variable incentive levels must offer higher incentive levels for low-income households*

# Rooftop Solar for Multi-Unit Buildings

- ❖ Clarifies that a landlord operating a net-metering system and providing electricity to tenants is not operating as a public utility where the residential or commercial units do not have individual electric meters, and the tenants are not charged for electricity based on the amounts they use.



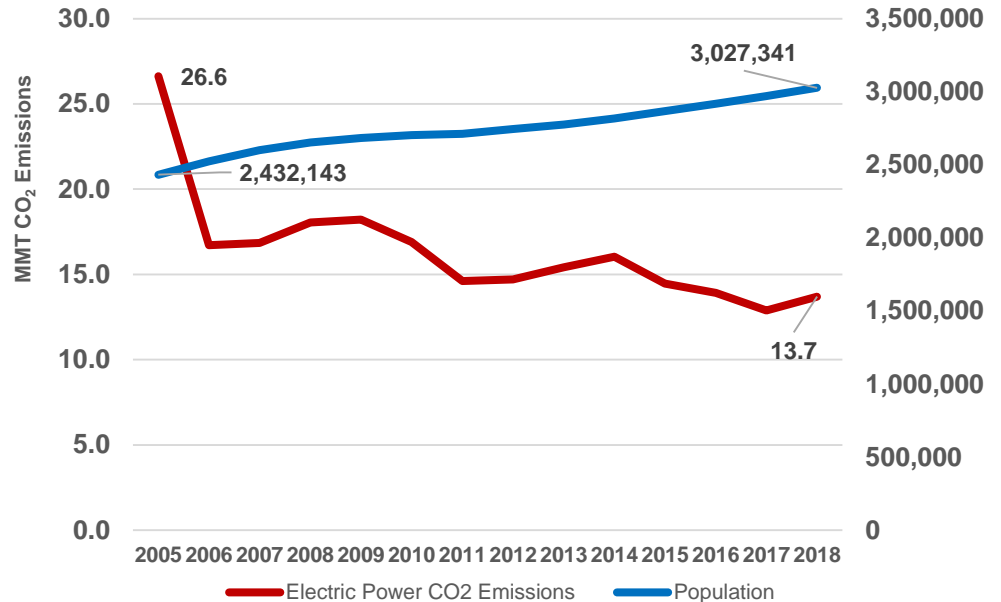
- An issue has been raised by the electric utilities as to whether the customer-generator of a net – metered distributed generation (rooftop solar) system located on the premises of a multi-unit residential or commercial building falls within the definition of “public utility”, as they are providing electricity to their tenants.

# Resource Planning to Reduce Carbon Emissions

- Even as Nevada's population has increased, carbon emissions from electricity have decreased

Nevada - Electric Power Sector CO<sub>2</sub> Emissions vs. Population  
2005-2018

Source: <https://www.eia.gov/environment/emissions/state/>



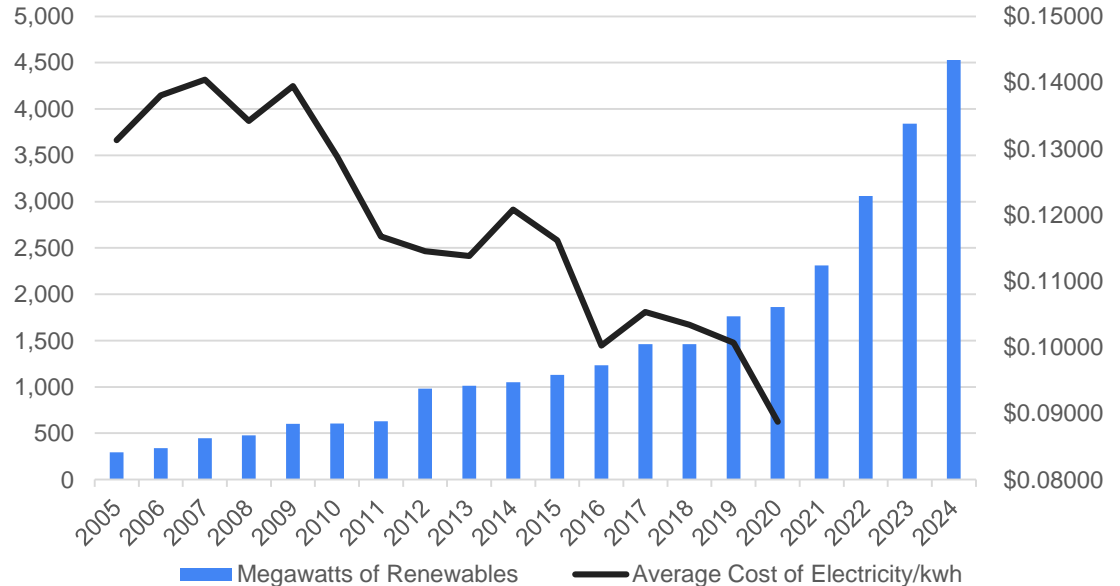
# Resource Planning to Reduce Carbon Emissions

- As renewable generation has increased, and carbon emissions have decreased, the cost to customers has also decreased

NV Energy Renewable Growth and Average Rates\*

Source: NV Energy

\*Rates are real (2020 adjusted)



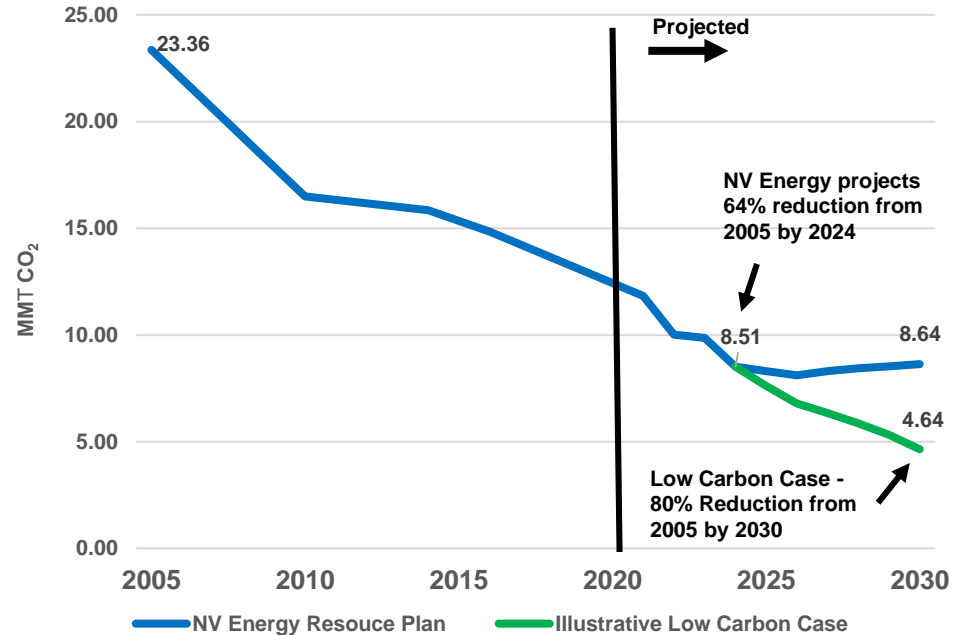
# Resource Planning to Reduce Carbon Emissions

❖ Requires electric utilities in resource planning to model a low carbon case with resources consistent with achieving:

- *By 2030, a reduction in CO<sub>2</sub> emissions of at least 80%, as compared to the level of CO<sub>2</sub> emissions in 2005*
- *By 2050, energy production from zero CO<sub>2</sub> resources equal to the total amount of forecast sales*

❖ Potential to achieve a further reduction of 4 million metric tons in annual CO<sub>2</sub> emissions by 2030

Historical & Projected CO<sub>2</sub> Emissions - 2005-2030 (MMT)  
NV Energy Resource Plan v. Illustrative Low Carbon Case  
Projected emissions for NV Energy Resource Plan from PUCN Docket No. 20-07023





# Unlocking Nevada's Potential to be Top State for the Energy Storage Industry

## ❖ Adding Energy Storage Facilities and Hybrid Generation and Storage Facilities to the **Renewable Energy Tax Abatement Program (RETA)**

- Lithium is the primary ingredient in most battery storage technologies
- Nevada has the largest lithium-ion battery factory in the world
- Nevada has North America's only lithium mine and the largest potential lithium resources in the world

“Since the program’s inception, Nevada’s investment of \$1 billion in tax abatements has attracted more than **\$9 billion in capital investments, payroll, and taxes paid**. The projects that have received an abatement from the Governor’s Office of Energy created more than **11,500 jobs** that paid an average wage of over **\$45 an hour**. This represents a total of **56** renewable power plants and one transmission project in Nevada.”

*(Governor’s Office of Energy, December 2020)*

# Reopening the Economic Development Electric Rate Rider Program (EDRR)

*Nevada Governor's Office of*

**ECONOMIC DEVELOPMENT**

- ❖ Changes application deadline for the EDRR program from December 31, 2017 to December 31, 2024.
- ❖ Changes the 8-year time period for which declining percentage rate discounts apply from Years 1-8 to Years 3-10 of the required 10-year contract term.
- ❖ Adjust the dates so that the Commission shall submit a report on the program to the Director of the LCB for the 83rd Session of the Legislature before December 31, 2022.

Reopens the Economic Development Electric Rate Rider Program for remaining capacity under the 50 MW cap to encourage the location or relocation of new commercial and industrial businesses in this State by providing discounted rates for electricity to eligible participants.

**Deadline:** December 31, ~~2017~~ → 2024

Program established in 2013

## Disposition of Generation Assets

- ❖ Amends law to clarify that an electric utility is not prohibited from disposing of its generation assets in a merger with an affiliated electric utility where both utilities are subject to comprehensive regulation by the PUCN, and the merger is approved by the PUCN.

## Public Utility's Burden of Proof

- ❖ Establishes that the utility has the burden of proving reasonableness and prudence in applications submitted for approval by the Commission.
- ❖ Clarifies that when the Commission reviews any request by a public utility to establish or adjust any schedule, rate, toll or charge, there is no presumption of prudence for any recorded expenses, investments or other costs, and the public utility has the burden of proving reasonableness and prudence