State of Nevada
Governor's Office of Energy

Nevada's
Transportation Electrification

Presented to:

National Governors Association

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David Bobzien
Director

Nevada’s Transportation Electrification

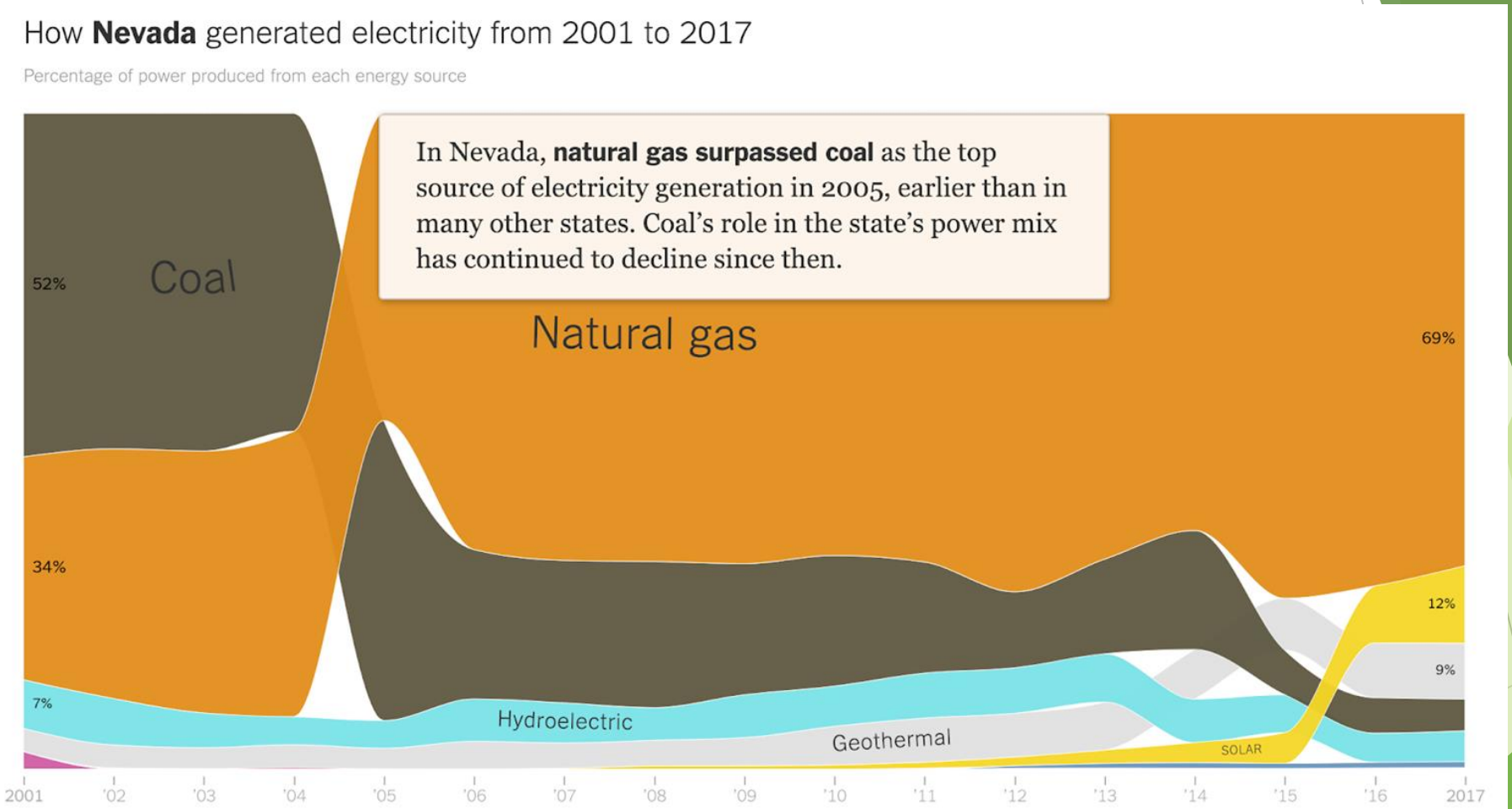
- Nevada: An Introduction
- Nevada’s Greenhouse Gas Emissions
- The Nevada Electric Highway
- What’s Next

Nevada: An Introduction

Nevada: An Introduction

- Lithium batteries now 11th ranked Nevada export
- $3M in 2015 to $136M in 2019 (US Census)

Nevada's Greenhouse Gas Emissions



Popovich, Nadja. 2018. "How Does Your State Make Electricity?" The New York Times. https://www.nytimes.com/interactive/2018/12/24/climate/how-electricity-generation-changed-in-your-state.html (December 27, 2018).

SB 254 – Climate Targets

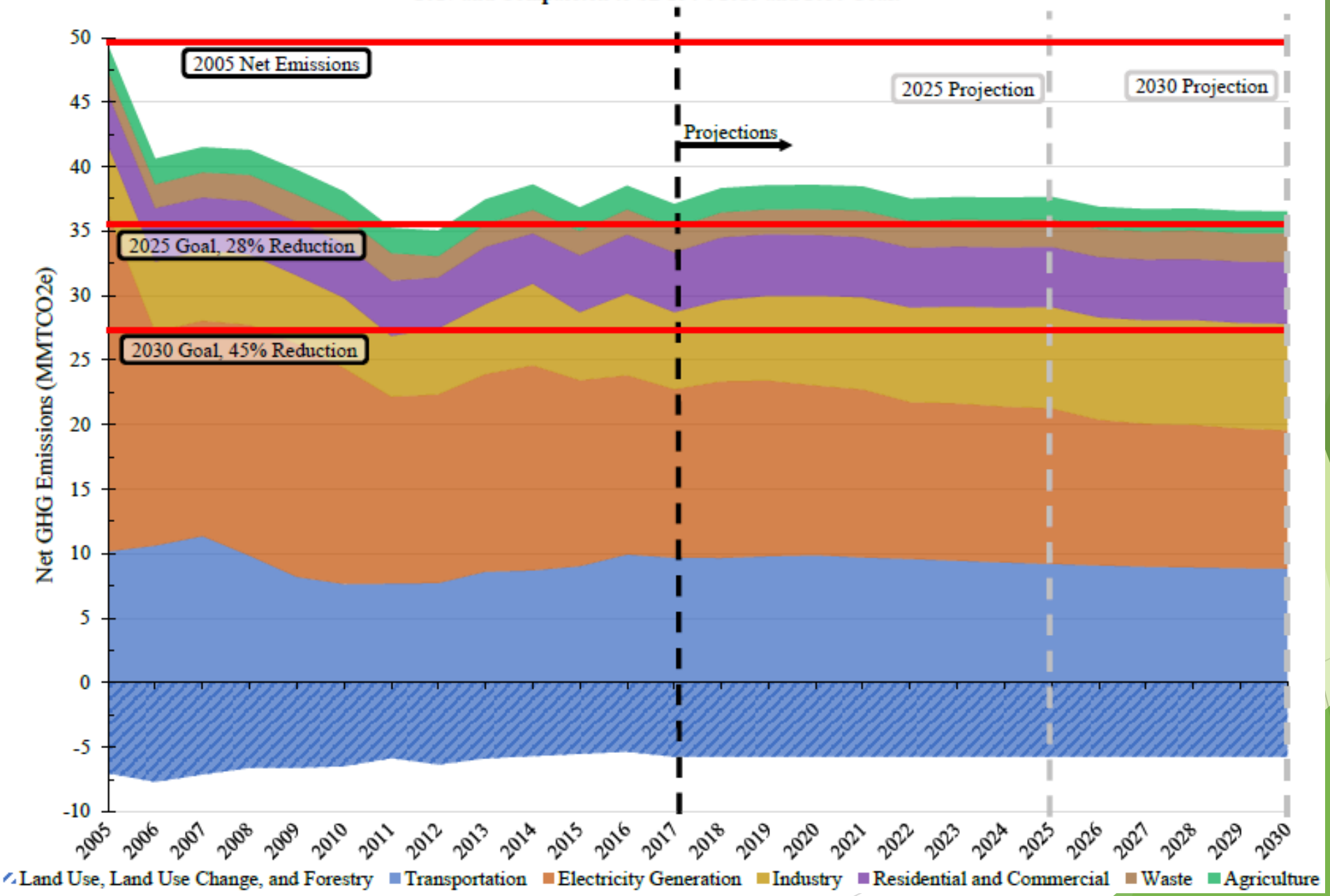
Greenhouse Gas Reduction Targets

- Baseline: 2005
- 28 percent by the year 2025
- 45 percent by the year 2030
- zero or near zero by the year 2050

Annual GHG Inventory

“Statement of policies” to reduce emissions

Figure ES-1: Nevada Historical and Projected Net GHG Emissions and Sinks by Sector, 2005-2030, with Projections Beginning in 2017 and Comparison to SB 254's 2025 and 2030 Goals



Executive Order 2019-22

Directs admin, guided by DCNR and GOE, to collaborate with public, private, and tribal partners to implement and accelerate solutions to advance Nevada's climate goals.

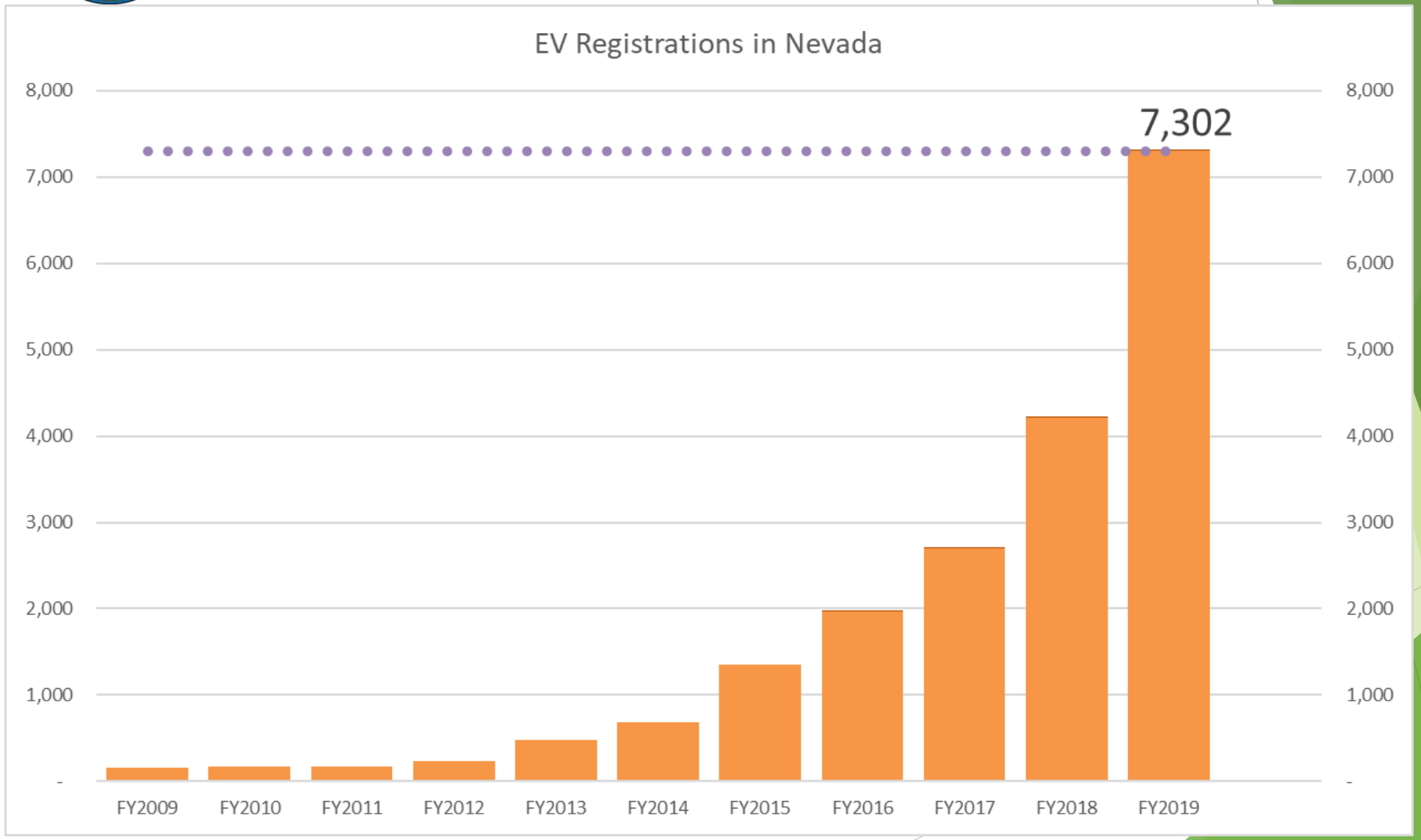
"This executive order will ensure Nevada continues to promote ambitious carbon-reduction standards that will help tackle the devastating impacts of climate change while creating good, high-paying jobs for Nevadans" **- Governor Steve Sisolak**

Executive Order 2019-22

SECTION 6: ”identify and evaluate policies and regulatory strategies… to achieve reductions in greenhouse gas emissions, consistent with Nevada’s commitment as a member of the U.S. Climate Alliance... Such policies and regulatory strategies shall include, but not be limited to, the following:

B. Support for transportation electrification and demand management, including infrastructure, fleet procurement, alternative funding mechanisms and other programs.”

Nevada's Transportation Electrification



Nevada Electric Highway

U.S. 95: Reno > Las Vegas

- Fallon (NVE, 10/2016)
- Hawthorne (NDOT, 3/2018)
- Tonopah (NDOT, 5/2019)
- Beatty (VEA, 2/2016)
- Indian Springs (NVE, 6/2020)

By 2020 (Phase 2):

- U.S. 95
- U.S. 93
- U.S. 50
- I-80
- I-15

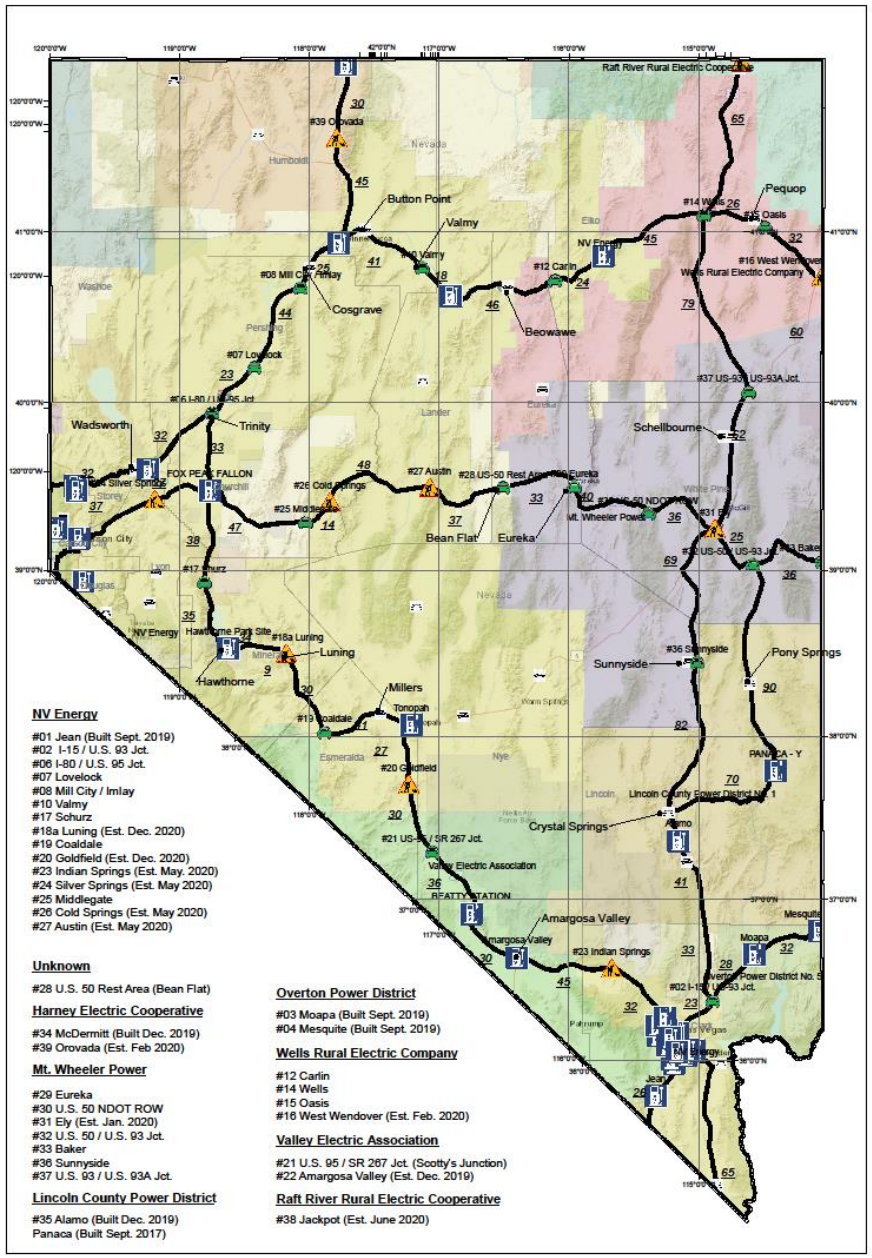
Nevada Electric Highway

The Deal

- Stations must be up and running for five years
- Must be open to the public for reasonable hours
- Phase I: charging must be FREE
- Phase II: charge at rate determined by site operator (subject to disclosure to GOE)

The Nevada Electric Highway

As of January 2020



Nevada Electric Highway

VW Allocation	NV	EV
2.0 Liter Allocation	$ 22,255,700	$ 3,338,355
3.0 Liter Allocation	$ 2,618,300	$ 392,745
Total	**$ 24,874,000**	**$ 3,731,100**
20% match requirement		$ 746,220
Total available pool		**$ 4,477,320**

- GOE: funding from the Renewable Energy Account for any required match
- GOE: grants to host sites through their service providers, reimbursed from the VW Mitigation Fund
- Up to $150,000 or $300,000 will be awarded for a site, depending on if 3-phase power is available
- NV Energy incentive up to 75% of project cost (~$2,000,000)
- NV Energy ownership* (~$1,000,000)
- Total of ~$7,500,000 for entire project

Nevada Electric Highway

Phase 2: NV Energy

6 active projects (Schurz, Luning, Goldfield, Silver Springs, Rye Patch and Austin)

NV Energy is covering 75%, GOE is covering 25%

		Est. Total Project Costs	
NV Energy	**11**	**$ 3,852,136**	**Status**
Austin	1	$ 309,611	active
Cold Springs	1	$ 288,331	completed
Goldfield	1	$ 297,113	active
I-15 / US 93 Jct	1	$ 280,000	planning
I-18 / US-95 Jct. (Trinity)	1	$ 300,000	planning
Jean	1	$ 148,746	completed
Luning	1	$ 263,753	active
Middlegate	1	$ 800,000	planning
Rye Patch	1	$ 638,948	active
Schurz	1	$ 282,933	active
Silver Springs	1	$ 242,702	active

Nevada Electric Highway

Total NEH Usage Statistics, Through July 2020

Sites Operational: 16
Total Charging Sessions: 2,463
Total Energy (kWh): 23,856

The environmental benefits of charging so far is equivalent to…

Greenhouse gas emissions from:

41,854

Miles driven by an average passenger vehicle

CO2 emissions from:

1,898

Gallons of gasoline consumed

Greenhouse gas emissions avoided by:

5.7

Tons of waste recycled instead of landfilled

641

Incandescent lights switched to LEDs

Carbon squestered by:

279

Tree seedlings grown for 10 years

22

Acres of U.S. forest in one year

Conversions: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

Nevada Electric Highway

Panaca… remote

Nevada Electric Highway

Demand Charge Offset Program

- Fox Peak Station (Fallon): only recipient of a GOE five-year Demand Charge Offset Program grant.
- Intended to offset increases in demand charges incurred by hosts of an electric vehicle charging station during the first five years of service.
- GOE annually reviews utility bills to determine charging station impact on demand charges.
- Three annual reviews have been completed; no demand charge implications experienced.

What's Next?

- Senate Bill 145 (2017) - Public Utilities Commission of Nevada created the Electric Vehicle Infrastructure Demonstration Program (EVID), the costs of which are recovered through a dedicated rate charged to customers on a per-kilowatt-hour basis.
- Senate Bill 299 (2019) - Highlighted the program may provide incentives to public schools for the installation of electric vehicle infrastructure or the purchase of electric vehicles.

What's Next?

- Multi-family residential and governmental charging programs
- Partnership, under EVID between NV Energy / GOE (75% / 25% funding share)
- Total budget for first program year: $600,000

What's Next?

- PUCN has approved several tariff schedules applicable to customers who purchase electricity to charge electric vehicles.
- Covered customers:
  - Residential
  - Residential Multi-Family
  - General Service
  - Commercial EV Charging
- Time-of-use focus

4. **Time-of-Use Periods.** In addition to the TOU periods defined under the applicable rate schedules, this rider provides daily time periods for a reduced rate during a Special EV Recharge periods based upon Pacific Standard Time/Pacific Daylight Time and defined as follows:

   Summer (June - September)
   EV Recharge Period 10:01 p.m. – 7:00 a.m.

   Winter (October – May)
   EV Recharge Period 10:01 p.m. – 7:00 a.m.

What's Next?

- Ownership models for scaling infrastructure
  - Utility, public, private?
- Remote site challenges
  - Solar, storage, mobile
- Vehicle to grid opportunities
  - DSM programs
- Impacts to adoption
  - ZEV standard
  - Fuel taxes, VMT proposals
  - Timing, scale of investment aligned with adoption?

Governor's Office of Energy

David Bobzien
Director
dbobzien@energy.nv.gov

775-687-1850

energy.nv.gov

@NevGOE