NV Energy Renewable Energy and Transmission

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NV Energy Overview

- **NV Energy - South**
  - Serves Southern Nevada (Las Vegas/Henderson, Laughlin, other communities)
  - 826,000 electric customers
  - 3,920 MW of generation capacity
  - 5,866 MW system peak in 2007
- **NV Energy - North**
  - Serves Northern Nevada, portion of Eastern California
  - 366,000 electric customers
  - 148,000 gas customers
  - 1,577 MW of generation capacity
  - 1,743 MW system peak in 2007
- Combined, the two utilities serve over 90% of retail energy load in Nevada
- California service territory sold in 2010
- ***Nevada was the fastest growing state in the US for 19 of the last 21 years***
- **NVE has constructed over $1 billion in transmission in last 12 years and has $800 million more in design or construction.**
- NVE has also interconnected 4000+ MW of new generation to our grids since 2000

NV Energy Overview
Renewable Energy

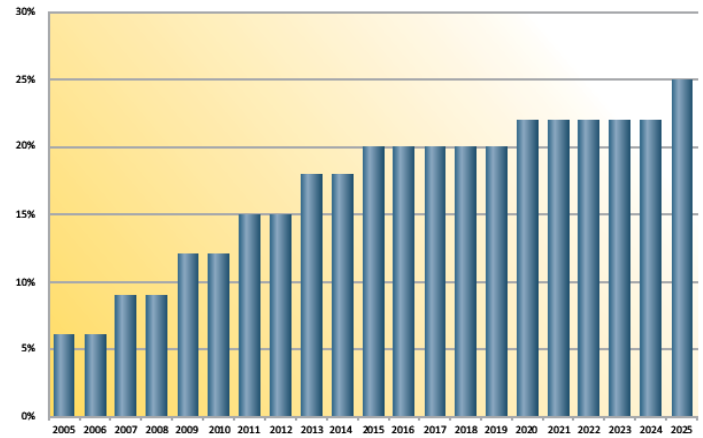
RPS Standard

- 20% of retail electric sales by 2015 and 25% by 2025 (25% of requirement can be made up from conservation)
- 2011 requirement - 15% of retail electric sales
- Through 2015, 5% (of 20%) must be from solar

Current NVE renewable portfolio includes 44 projects with a total of 1,240 MW

- In the past 12 months, NV Energy has added 530 MW to the portfolio

Nevada's Renewable Energy Portfolio Standard



Note: 25% of each year's portfolio standard can be achieved through energy conservations measures.

Projects

In Development

GEOTHERMAL

1. Beowawe 17.7MW
2. Brady Geothermal Project 21.5MW
3. Carson Lake Basin 62MW
4. Carson Lake Geothermal Project 31.5MW
5. Clayton Valley 53.5MW
6. Desert Peak Geothermal Project #2 19MW
7. Faulkner 1 49.5MW
8. Galena 2 13MW
9. Galena 3 26.5MW
10. Homestretch 2.1MW
11. Hot Sulfur Springs 2 25MW
12. Jersey Valley Geothermal Project 31.5MW
13. McGinness Hills 51MW
14. Richard Burdette Generation Facility 26MW
15. Salt Wells 23.6MW
16. San Emidio 3.8MW
17. Soda Lake I 3.6MW
18. Soda Lake II 19.5MW
19. Steamboat Hills 13.2MW
20. Steamboat IA 2MW
21. Steamboat II 13.4MW
22. Steamboat III 13.4MW
23. Stillwater 2 47.2MW

SOLAR

24. American Capital Energy - Searchlight Solar LLC 17.5MW
25. Fotowatio 20.5MW
26. Las Vegas Valley Water District (Six Projects) 3.1MW
27. Nellis AFB 12MW
28. Nevada Solar One 64MW
29. Next Light/Silver State 50MW
30. Procaps Laboratory 0.2MW
31. SolarReserve Tonopah Solar Energy Facility 110MW

OTHER

BIOMASS

32. CC Landfill LLC 10.7MW
33. Renewable Energy Ctr. @ N NV Corr. Ctr. 1MW
34. Sierra Pacific Industries 10MW
35. Truckee Meadows Water Reclamation Facility 1.4MW
36. Waste Management Renewable Energy 3.2MW

HYDRO

37. Fleish 2.5MW
38. Hooper 0.8MW
39. Truckee Carson Irrigation District 4MW
40. Verdi 2.2MW
41. Washoe 2.2MW

WASTE HEAT

42. Goodsprings 5.8MW

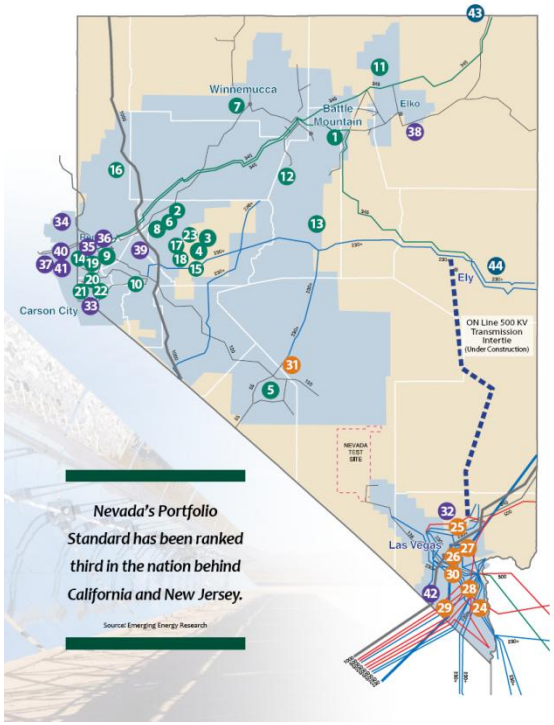
WIND

43. China Mountain 200MW
44. Spring Valley 150MW

Nevada is ranked #1 in installed solar energy capacity per person.

Solar Energy Industries Association's U.S. Solar Industry Year In Review 2009 Report

NV Energy's Renewable Energy Sources



Nevada's Portfolio Standard has been ranked third in the nation behind California and New Jersey.

Source: Emerging Energy Research

NV Energy Interconnection Overview

Large Generator Interconnection Procedures and Agreement (LGIP & LGIA)

Governed by NV Energy pro-form OATT

LGIA >20 MW

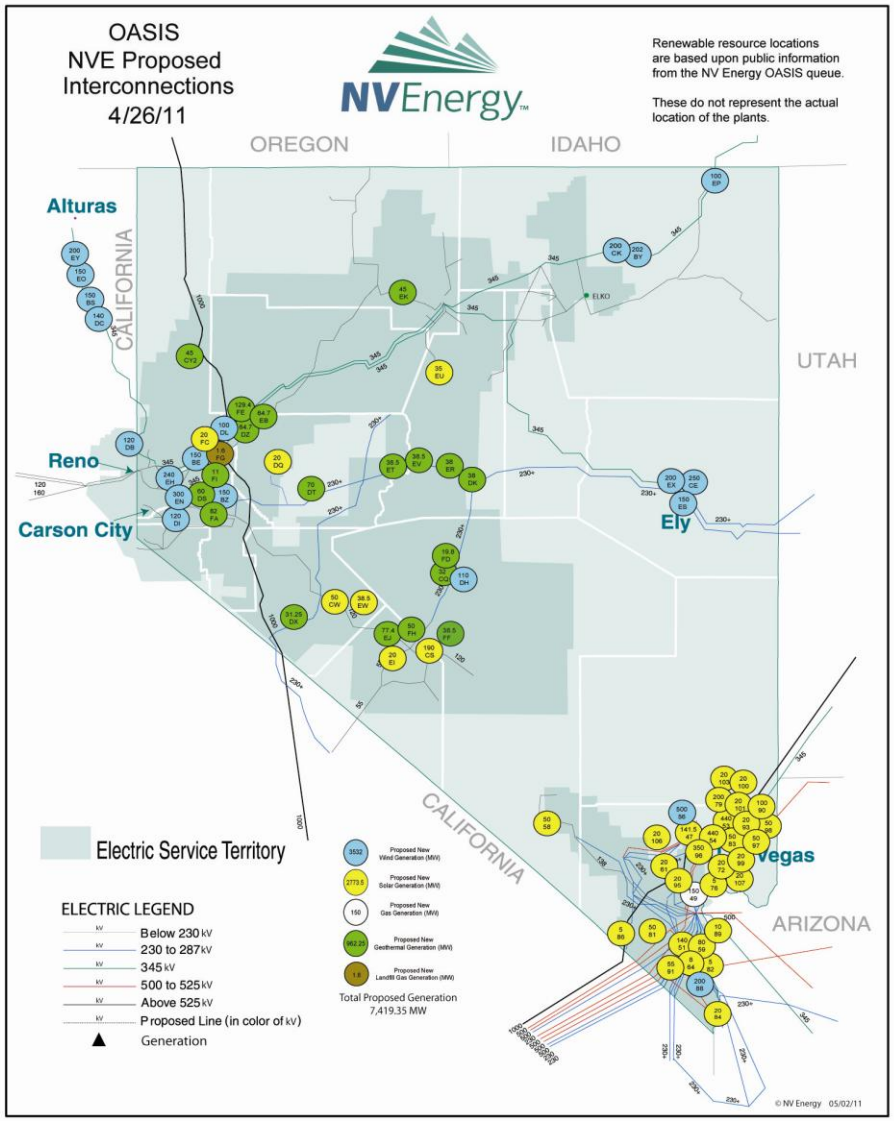
SGIA 20 MW or less

Generator is responsible for power plant lead line permitting, design, construction, and protection and all associated costs.

Utility is responsible for Network Upgrades – initially securitized by generator

Permitting can take up to 5 years for new transmission lines (EIS)

Generators do not have condemnation capability

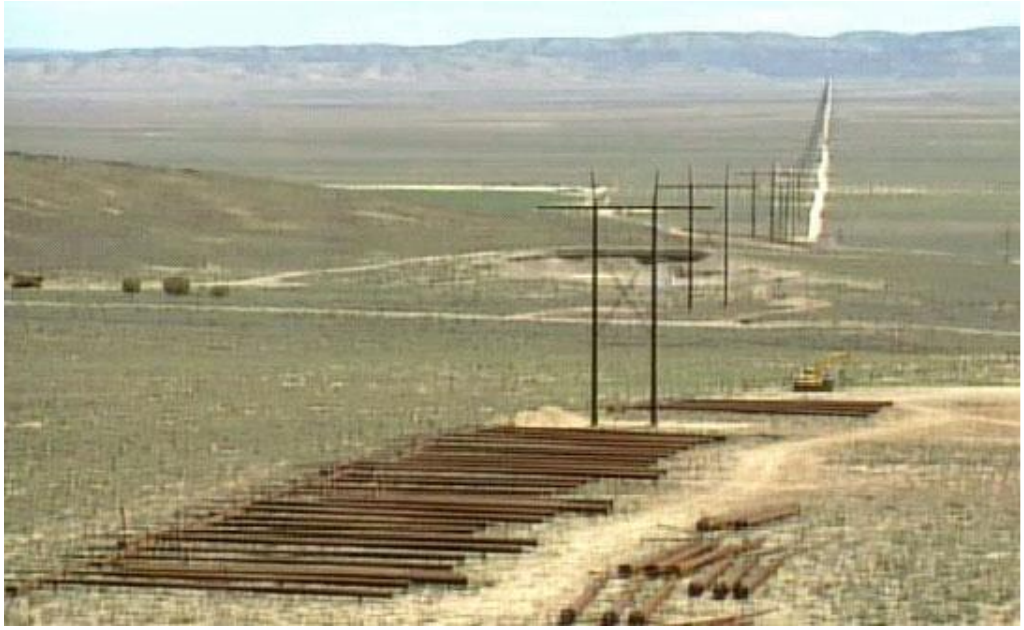


NV Energy Transmission Expansion Overview

6 Lines Major HV and EHV in the last 15 years

Average of approximately 100 million per year in transmission capital improvements for the last 15 years

- Alturas (1998)
  - 167 mile, phase shifted 345 kV intertie to BPA
- Crystal (1999)
  - 950 MVA, phase shifted 500 kV interconnection tap to LADWP
- River Mountain (2001)
  - 30 mile, 4x230 kV joint project interconnection to Western
- Bighorn (2003)
  - 30 mile, 2x230 kV line with 500 MW power plant and solar PV
- Falcon – Gonder (2004)
  - 200 mile, 345 kV line to reinforce interconnection to PACE/LADWP
- Centennial (2003 – 2007)
  - 100 mile, 500 kV interconnection to Western and integration of up to 3000 MW of generation



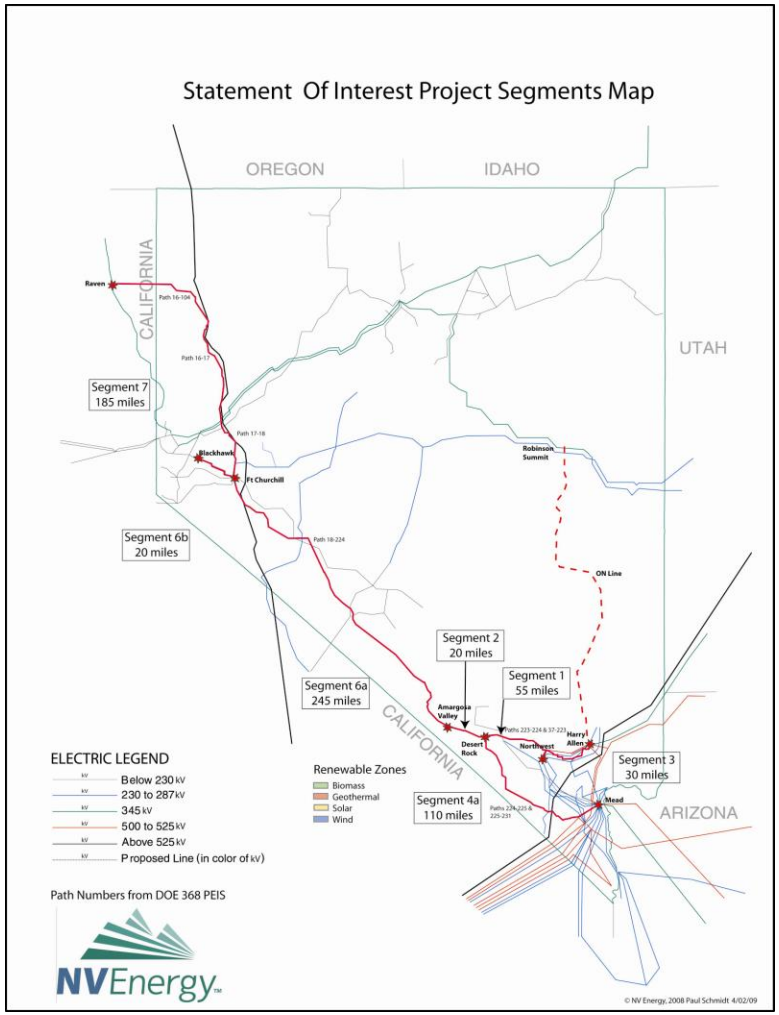
ON Line - 2012

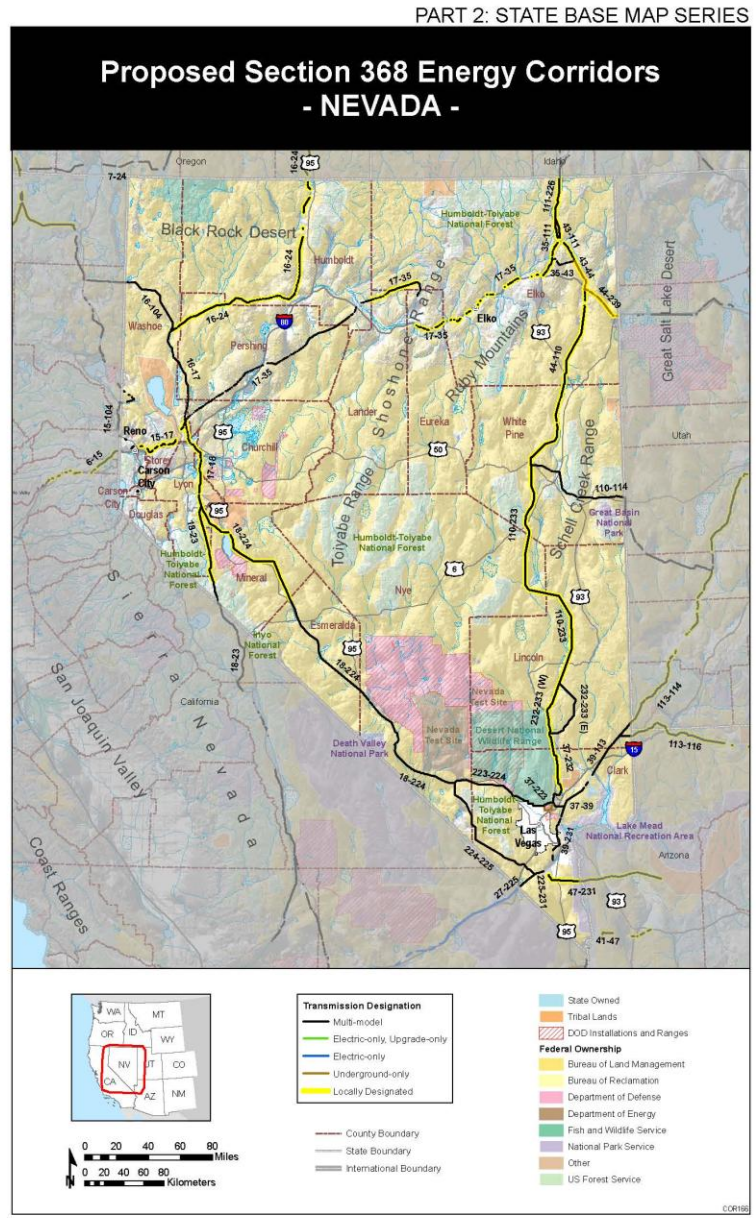
- Components
  - 235-mile 500 kV transmission line Robinson-Harry Allen
  - Robinson Summit 500/345 kV substation
  - Falcon-Gonder Fold
  - Series compensation on the existing Falcon – Gonder 345 kV line
  - Harry Allen Terminal
- ON Line flow
  - 600 MW bi-directional
  - 2000 MW ultimate capability (phase II)
- Total Project estimate $509.6M w/o AFUDC
  - $14.7M in 2010
  - $217.6M in 2011
  - $262.5M in 2012
- **Completed ON-Line project in service December 2012**

First 500 kV ON Line tower

- Guyed Tubular “V”
- First of 856 Structures
- Designed for 2000 MW
- 3x1590 ACSR

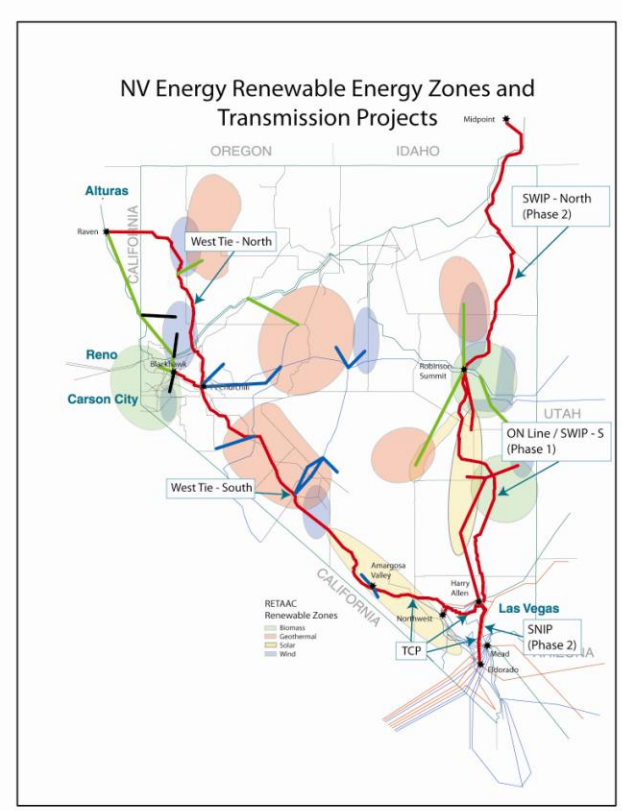
DOE Section 368 and Western TIP SOI



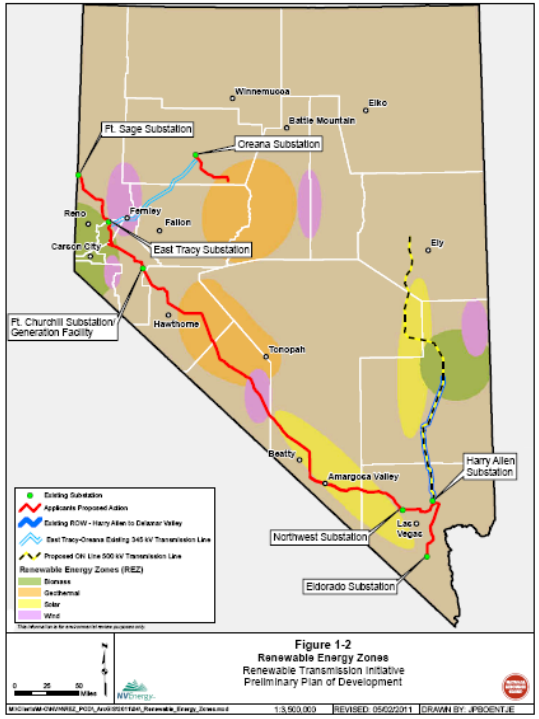
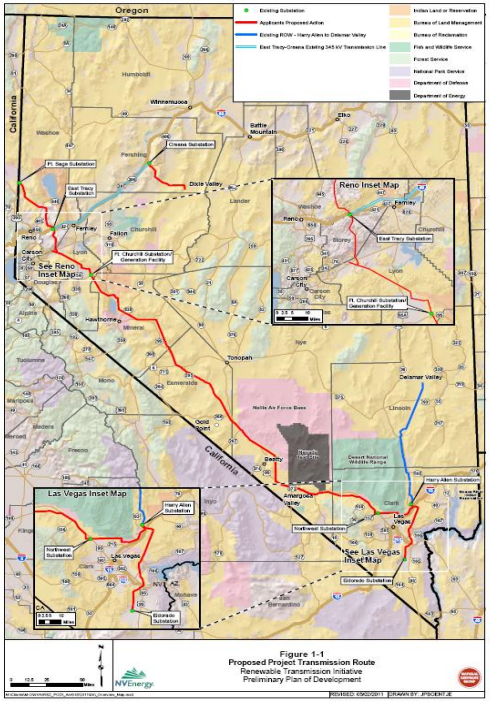


Renewable Energy Conceptual Transmission Plan ("RECTP")

- Required by Assembly Bill 387
- Process developed under PUCN Docket 09-07010
- Identifies transmission plans and costs to access RETAAC/PUCN approved renewable energy zones
- NV Energy is required to file an RECTP in each triennial Integrated Resource Plan
- First RECTP filing was July 1, 2010 in the SPPC IRP
- This RECTP integrates ON Line, RETAAC/PUCN, Western SOI, SWAT and SSPG work into comprehensive design.



Renewable Energy Conceptual Transmission Plan ("RECTP") Next steps

- Filed SF299 with BLM
- Filed UEPA application with PUCN
- Filed IRP requirement waiver with PUCN

- NV Energy will conduct A solicitation of interest through its existing Federal Energy Regulatory Commission-approved transmission planning process.
- The open transmission planning process will solicit requests for transmission capacity rights sufficient to justify the development of new transmission infrastructure to facilitate renewable energy export.