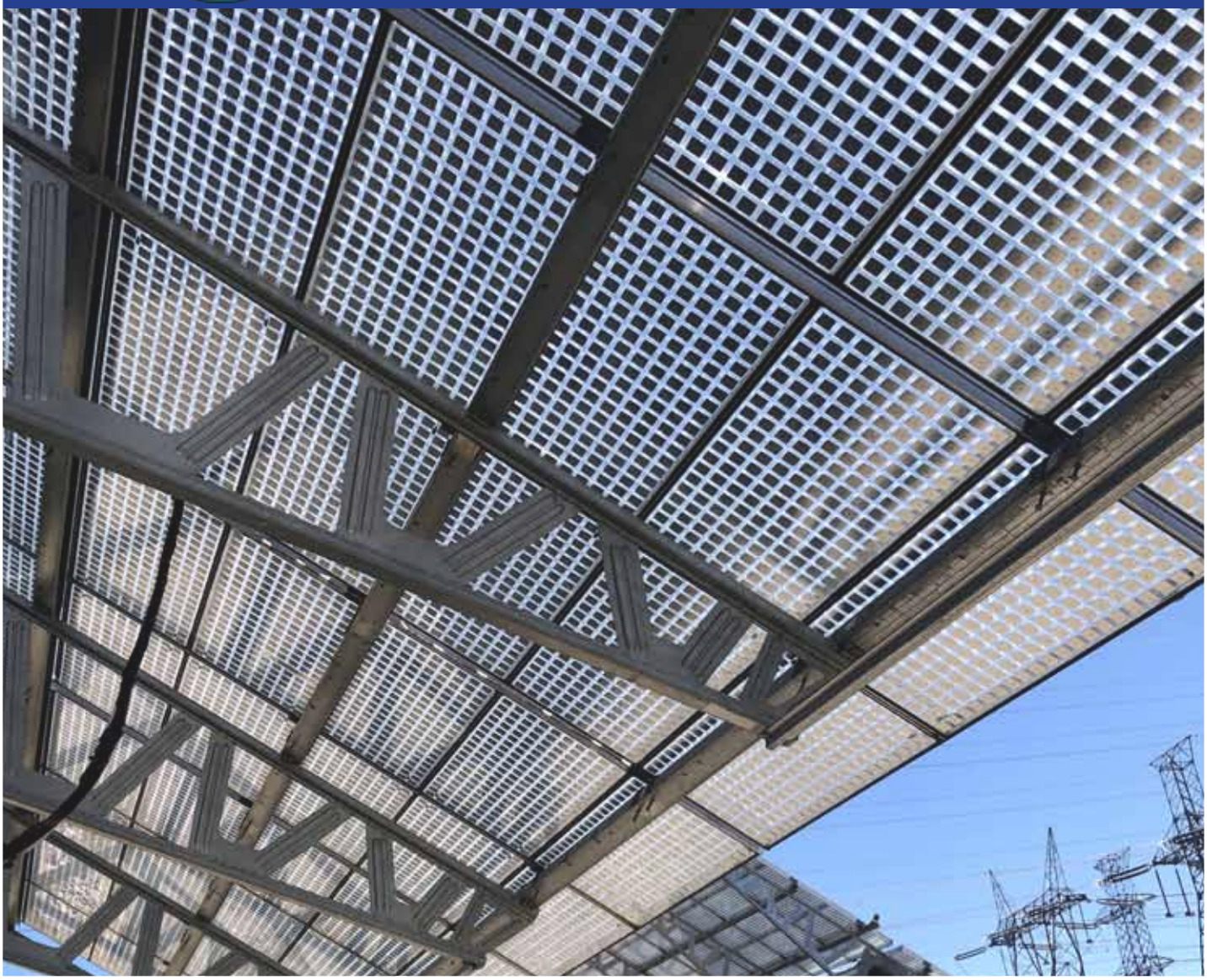
State of Nevada
Governor's Office of Energy










2019 Status of Energy Report

Governor's Office of Energy

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Cover Photo: U.S. Department of Energy Regional Test Center for Solar Technologies, Henderson, NV (Source: GOE)
Background Photo: Spring Valley Wind (Source: GOE)

Governor's Office of Energy: Mission

The mission of the Governor's Office of Energy is to ensure the wise development of Nevada's energy resources in harmony with local economic needs and to position Nevada to lead the nation in renewable energy production, energy conservation, the exportation of energy and transportation electrification. The Governor's Office of Energy implements the laws of the State as defined in the Nevada Revised Statute, Chapters 701 and 701A; manages energy-related programs; facilitates cooperation between key stakeholders; advises the Governor on energy policy; and collaborates with our local, regional, and federal partners to ensure a reliable and sustainable energy system.

State Fiscal Year 2019 - Revenues

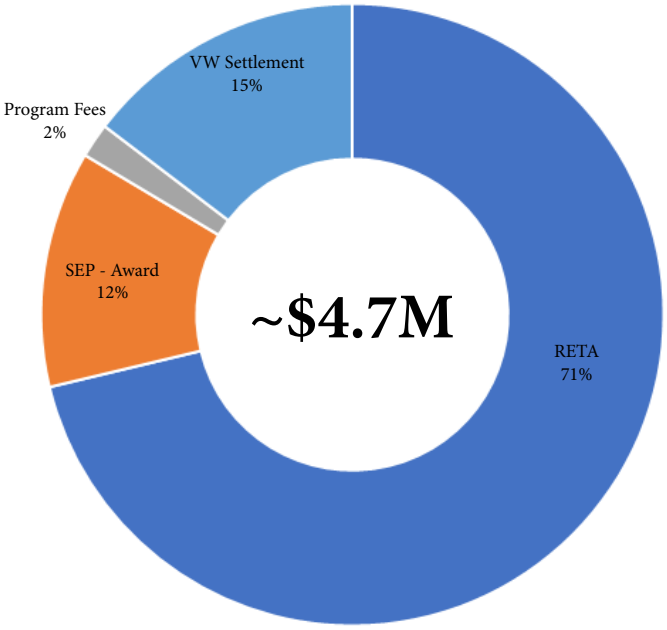


Figure 1 - Governor's Office of Energy Revenue (SFY 2019)

State Fiscal Year 2019 - Expenditures

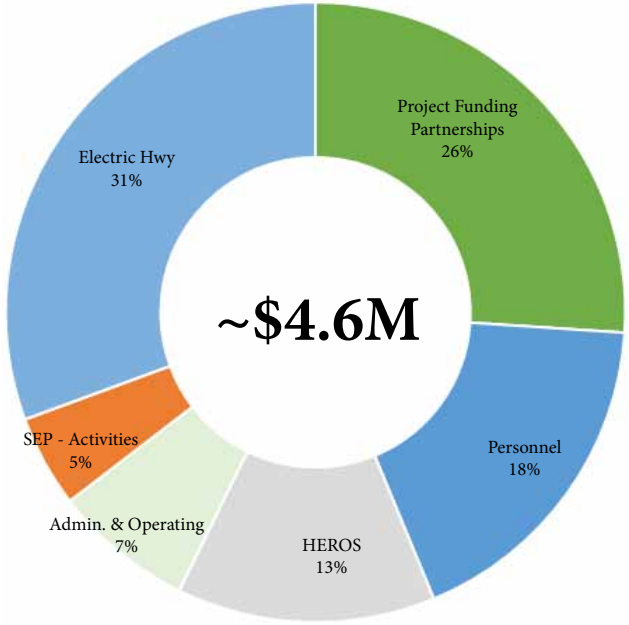


Figure 2 - Governor's Office of Energy Expenditures (SFY 2019)

Revenues:

- Renewable Energy Tax Abatements (RETA) - Income from renewable projects built before 2013; 55% taxes are abated, other 45% are paid, and those are split 45%-55% between the Governor's Office of Energy and the County respectively.
- U.S. DOE State Energy Program (SEP) Formula Grant Award - Annual source of income from federal government.
- Program Fees - Fees generated from the Green Building Tax Abatement (GBTA) and RETA programs (application and compliance fees).
- Revolving Loan - Interest earned from active loans (and money in the account).

Expenditures:

- Personnel - Staff salaries, fringe benefits and travel.
- Home Energy Retrofit Opportunity for Seniors (HEROS) - Funds spent that went directly towards energy efficiency projects.
- Administration & Operating - Building utilities, rent, etc.
- U.S. DOE SEP Activities - Grants issued for renewable energy, energy efficiency or transportation electrification projects; or on staff time in support of projects.
- Program Fees - Fees that the HEROS and DEAL programs pay Nevada Housing Division (NHD) and the contractors to implement the program.
- Project Funding Partnerships - Grants issued for renewable energy, energy efficiency or transportation electrification projects.

Energy in Nevada

2018 Nevada Electric Energy Consumption

Electric energy consumption in Nevada consists of customers of the major providers listed below. NV Energy (Sierra Pacific Power Co. and Nevada Power Co.) provides 89 percent of the state's electrical power; 6 percent by electric cooperatives; and the remainder by businesses, general improvement districts, municipal utilities, and others. While some of the service areas of several power providers extend into neighboring states, the electric energy consumption estimates presented in the table below are for Nevada only. The chart below represents bundled service only service.

	MWh
Investor Owned	**29,380,243**
Nevada Power Co. (Bundled)[1]	20,495,914
Sierra Pacific Power Co.(Bundled)[1]	8,884,329
Cooperatives	**2,011,541**
Harney Electric Coop, Inc.[1]	116,052
Mt. Wheeler Power, Inc.[1]	533,369
Plumas-Sierra Rural Elec. Coop[1]	4,376
Raft Rural Elec. Coop Inc.[1]	50,756
Surprise Valley Electrification[1]	102
Valley Electric Assn., Inc.[1]	550,083
Wells Rural Electric Co.[1]	756,803
Political Subdivision	**466,251**
Aha Macav Power Service[1]	22,515
Overton Power District No. 5[1]	382,737
Lincoln County Power District No. 1[2]	46,960
Alamo Power District No. 3[2]	14,039
Municipal	**259,123**
Boulder City[1]	152,809
City of Fallon[2]	88,130
City of Caliente[2]	10,548
City of Pioche[2]	7,636
Colorado River Comm. of NV (Bundled)[1]	**511,497**
Western Area Power Administration[1]	**26,016**
Behind the Meter	**199,302**
Greenbacker Renewable Energy Corp.[1]	379
Greenskies Renewable Energy, LLC.[1]	583
SolarCity Corporation[1]	119,010
Spruce Finance[1]	1,134
SunEdison LLC[1]	1,650
Sunnova[1]	21,215
SunPower Capital, LLC[1]	4,281
Sunrun Inc.[1]	45,885
Vivint Solar, Inc.[1]	5,165
EIA Net Bundled Adjustment	**108,185**
EIA Bundled Adjustment	275,498
Total of EIA 861 Short Form	(167,313)
Total 2018 Nevada Bundled	**32,962,158**

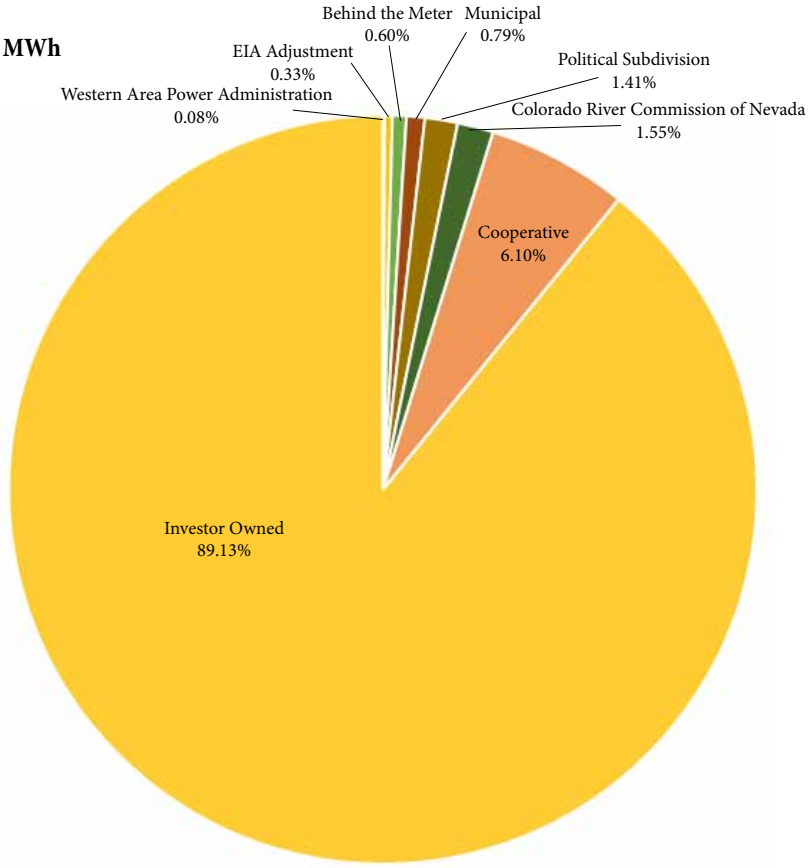


Figure 3 - Electric Energy Consumption by Provider

[1]Source: U.S. Energy Information Administration (EIA) 2018 Form 861 (Utility Sales)
[2]Source: EIA 2018 Form 861 (Short Form)

Energy Only Providers	**9,583,242**
Nevada Power Co. (Delivered)	2,549,191
Sierra Pacific Power Co. (Delivered)	1,604,481
Exelon Generation Company[1]	181,087
Macquarie Energy LLC	41,832
Morgan Stanley Capital Grp. Inc.	481,592
Shell Energy North America (US), L.P.	1,505,774
Silver State Energy Association[1]	991,510
Tenaska Power Services Co.[1]	1,593,484
Colorado River Comm. of Nevada (Delivered)[1]	664,433
EIA Energy Only Adjustment[1]	**52,968**
Total 2018 Nevada Delivered	**9,636,210**

Nevada's Electric Energy Generation Portfolio

As shown in Figure 4, Nevada uses several sources to generate electricity including natural gas, renewables, coal, and a small amount from petroleum. The combination of energy resources a utility uses to create electricity is known as a resource mix, or portfolio. Currently, more than two-thirds of the State's electricity is produced by natural gas fired power plants; renewables comprise most of the remaining amount; coal still remains as Nevada phases out its coal power plants. Nevada has seen a significant increase in renewable energy production, and continues to develop its abundant renewable energy resources such as geothermal and solar for use both within the State and for exportation. Nevada has nearly doubled its renewable energy production since 2011.

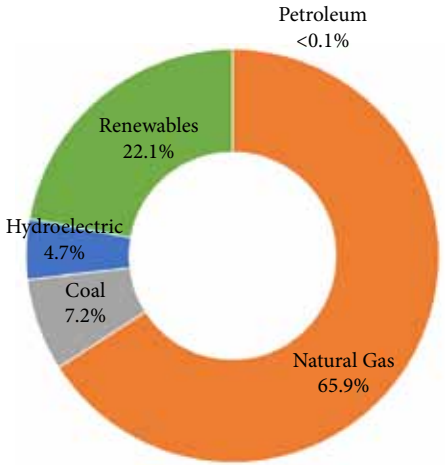


Figure 4 - Net Electricity Generation by Source (4,514 thousand MWh)
Source: EIA; Data, September 2019

Nevada's Renewable Portfolio Generation

The Governor's Office of Energy closely tracks the renewable energy generated in Nevada, whether that energy is used in Nevada or exported to neighboring states. Renewable energy is defined in NRS 704.7811 as biomass, geothermal, solar, wind and waterpower. Waterpower is further defined as power derived from standing, running or falling water which is used for any plant, facility, equipment or system to generate electricity if the generating capacity is not more than 30 MWs.

Capacity vs. Generation

The charts below depict Nevada's renewable nameplate capacity, expressed in megawatts (MW) and renewable electricity generation, expressed in megawatt-hour (MWh) numbers. Awareness of the difference between nameplate capacity and electricity generation is critical to improving reliability, lowering costs, and enhancing the integration of renewable resources. Nameplate capacity is the maximum rated electric output a generator can produce under specific conditions. Generation is the amount of electricity a generator produces over a specific period of time. The difference is due to the fact that many generators do not or cannot operate continuously at their full nameplate capacity.

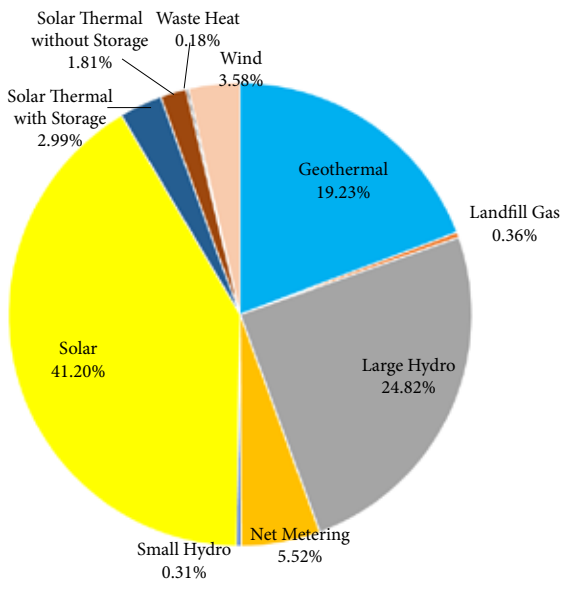


Figure 5 - 2018 Capacity (4,187.5 MW)
Source: EIA 2018 From 860

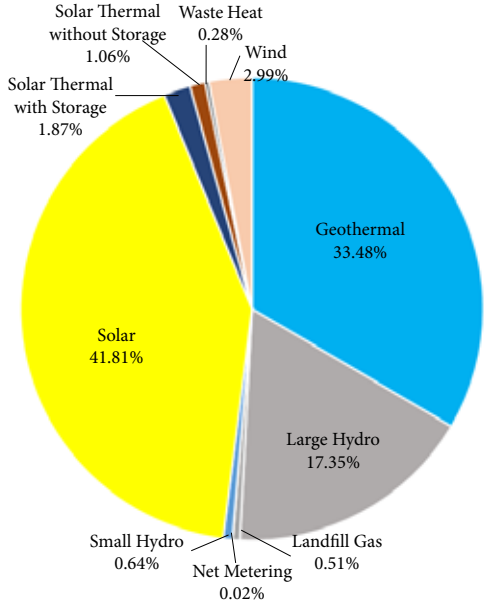


Figure 6 - 2018 Renewable Generation (10,458,483 MWh)
Source: EIA 2018 From 923; Note: net metering value represents the amount of energy sold back to the grid.

Energy in Nevada

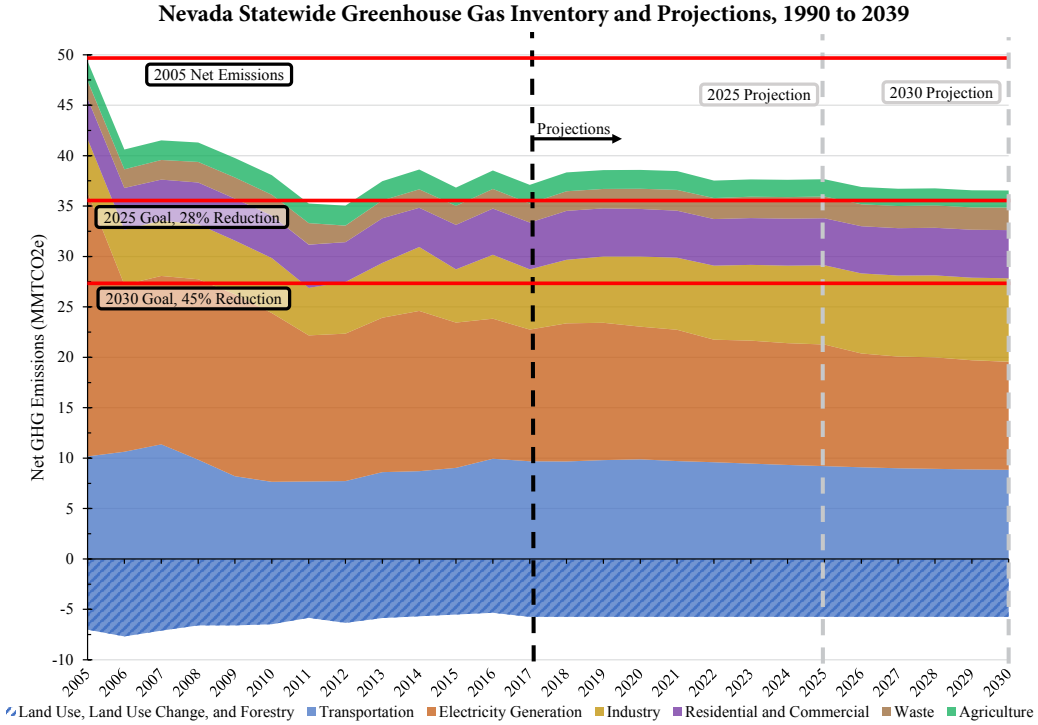
Nevada's Climate Action

Climate change is the broader range of changes that are happening to our planet. These include rising sea levels; shrinking mountain glaciers; accelerative ice melt; and shifts in flower/plan blooming times. These are all consequences of the warming, which is caused mainly by people burning fossil fuels and putting out heat-trapped gases into the air.[1]

2019 marked robust action in Nevada to tackle climate change and its indisputable impacts to the state. These impacts are seen statewide. Las Vegas has been identified as the fastest-warming city in the United States with an increase in temperature of 5.76 degrees since the 1970's.[2] With this increase in temperature comes an expected increase in heatwaves, and heat-related deaths stressing the productivity of the Southern Nevada economy. A report from the Union of Concerned Scientists warns that absent global action to reduce carbon emissions, Las Vegas will likely experience 96 days of heat above 100F by the end of the century, including 60 days of temperatures above 105F and seven "off the chart" days, i.e. those that would break the current heat index.[3] The Reno-Tahoe region is also feeling the impacts of climate change, with rising temperatures in Reno and ecological impacts to the fragile Lake Tahoe.[4]

Nevada's action to reduce carbon emissions economy-wide included:

- Joining the U.S. Climate Alliance in March of 2019;
- Passing Senate Bill 254 (2019);
- Governor Sisolak's signing Executive Order 2019-22; and
- Completion of a greenhouse gas inventory with identification of policy options for further emission reductions.



(Above): This chart from the Nevada Division of Environmental Protection's green-house gas inventory, depicts projected reductions in greenhouse gas emissions under current policies and the size and status of the reported sectors. Absent innovative and robust policies, current predictions by Nevada's air regulators conclude Nevada will not meet its carbon reduction goals. (source: NDEP http://ndep.nv.gov/uploads/air-pollutants-docs/ghg_report_2019.pdf)

[1]Source: NASA: https://climate.nasa.gov/faq/12/whats-the-difference-between-climate-change-and-global-warming/
[2]Source: Climate Central Research: https://assets.climatecentral.org/pdfs/April2019_Report_EarthDay.pdf?pdf=AmericanWarming-Report
[3]Source: Union of Concerned Scientists: https://www.ucsusa.org/resources/killer-heat-united-states-0#ucs-report-downloads
[4]Source: Reno Gazette Journal: https://www.rgj.com/story/life/outdoors/2017/08/10/how-climate-change-harms-lake-tahoe-and-how-stop/558083001/

Nevada's Climate Action

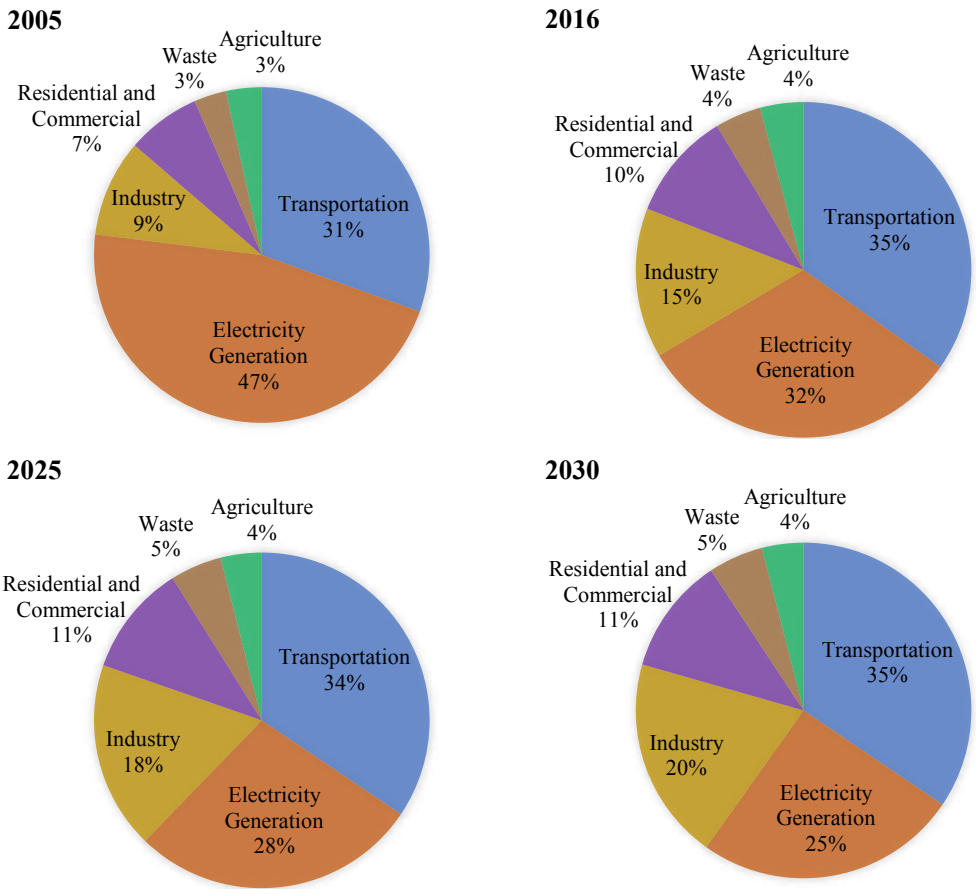
Energy in Nevada

The 2019 "Nevada Statewide Greenhouse Gas Emissions Inventory and Projections, 1990-2039" report ("GHG Report"), prepared in accordance with SB 254, tallies current and projected emissions across multiple economic sectors, including: Transportation, Electricity Generation, Industry, Residential and Commercial Construction, Waste, Agriculture and Land Use, Land Use Change and Forestry.

The overwhelming majority of emissions cited in the GHG Report come from the combustion of fossil fuels in energy-related sectors. These sectors, accounting for 86% of Nevada's gross emissions, include transportation, electricity generation, energy-related industry, and the residential and commercial sectors. Currently, transportation is the largest source of emissions at 35% of statewide totals and emissions from electricity generation constitute 31% of statewide emissions. Work to develop smart and innovative policies to tackle emissions from these sectors will require collaboration across state agencies and branches, local governments, tribal governments, and business and industrial sectors over the coming years.

The GHG Report is available online[1].

Relative Contributions of Nevada's Gross GHG Emission by Sector. 2005, 2016, 2025 and 2030



As additional policies supporting renewable energy development have been put in place and more renewable energy resources are bought on line between now and 2030, electricity generation sector emissions are projected to fall 22% from their 2005 levels. The transportation sector remains the largest percentage of emissions and reducing these emissions will require innovative policies and a variety of technologies in low to no carbon fuels across all mobile sources of emissions: highway vehicles, aircraft, locomotive, marine vessels, and all manner of motorized non-road equipment and vehicles, including construction equipment, farm equipment, airport ground support equipment, and recreational vehicles.

[1]Source: Nevada Division of Environmental Protection: http://ndep.nv.gov/uploads/air-pollutants-docs/ghg_report_2019.pdf

Energy in Nevada

Energy Usage by Sector

A majority of fossil fuels are imported into Nevada. Transitioning to domestically produced sources like renewables allows a majority of the savings to remain in Nevada. In particular, the transportation sector accounts for approximately one-third of energy consumption and one-half of energy expenditures. Transitioning Nevada's transportation infrastructure to electric vehicles will lessen the State's dependency on out-of-state resources. The figures below show the energy consumption and expenditures by sector in Nevada as opposed to the previous charts which show GHG emissions.

Energy Consumption

Energy consumption is the amount of energy used in a process, organization, or society. The chart below on the left shows the breakdown of energy consumption in Nevada by percentage. About 88% of the fuel for energy that Nevada consumes comes from outside the State (Source: EIA Quick Facts on Nevada).

Energy Expenditures

Energy expenditure is the amount of money used to purchase energy in order to power a process, organization, or society. The chart below on the right shows the breakdown of energy expenditures in Nevada by percentage. Almost half of all energy expenditures in Nevada is for transportation, which falls into the fossil fuel category (jet fuel, gasoline, diesel fuel, aviation gas) and alternative fuel category (natural gas, electricity, propane, methanol, ethanol, and certain blends).

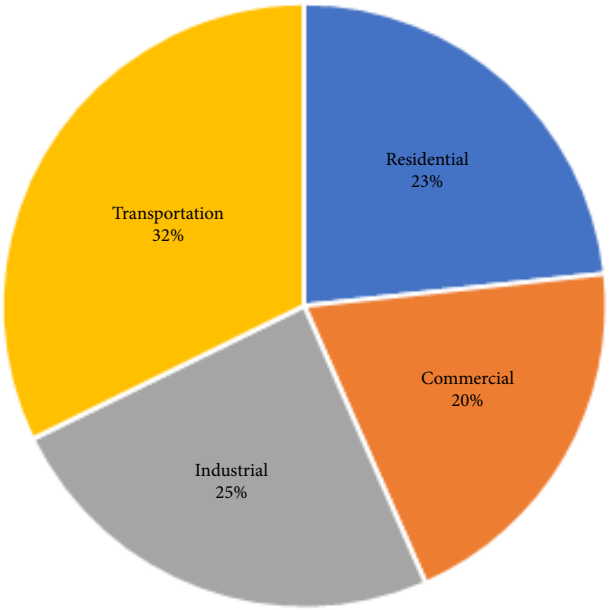


Figure 7 - Energy Consumption
Source: EIA Nevada Energy Consumption & Expenditures End-Use Sector 2017

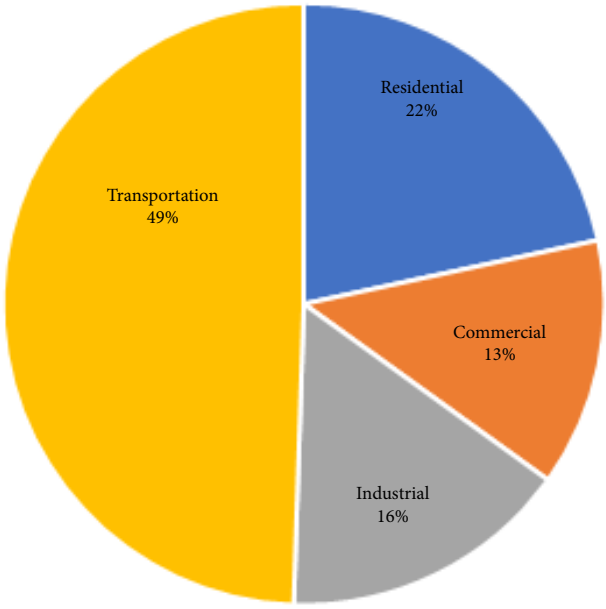


Figure 8 - Energy Expenditures
Source: EIA Nevada Energy Consumption & Expenditures End-Use Sector 2017

Renewable Portfolio Standard

Energy in Nevada

Nevada's Renewable Portfolio Standard (RPS), NRS 704.7801, was first adopted by the Nevada Legislature in 1997. The RPS establishes the percentage of electricity sold by an electric utility to retail customers that must come from renewable sources. Specifically, electric utilities are required to generate, acquire, or save with portfolio energy systems or energy efficiency measures, a certain percentage of electricity annually. It should be noted that the renewable energy generated in the State does not directly translate to RPS compliance. This difference is due to the fact that RPS carry-forward credits and credits from energy efficiency and conservation (through Demand Side Management [DSM]) are not accounted for in the generation data.

Photo (Above): Sempra's Copper Mountain solar plant (source: Sempra)

50% by 2030

SB 358 (2019) increased the RPS requirement to 50% by 2030. The percentage of renewable energy required by the RPS will increase every two years until it reaches 50% in 2030.

SB 358 tasked the Governor's Office of Energy with receiving RPS compliance reports from electric service providers subject to NRS 704.787. These compliance reports shall be submitted to the Governor's Office of Energy on or before July 1 of each year and must contain information delineated in NRS 704.7825. Submitted reports can be found at: http://energy.nv.gov/Resources/Renewable_Portfolio_Standard_Reporting/

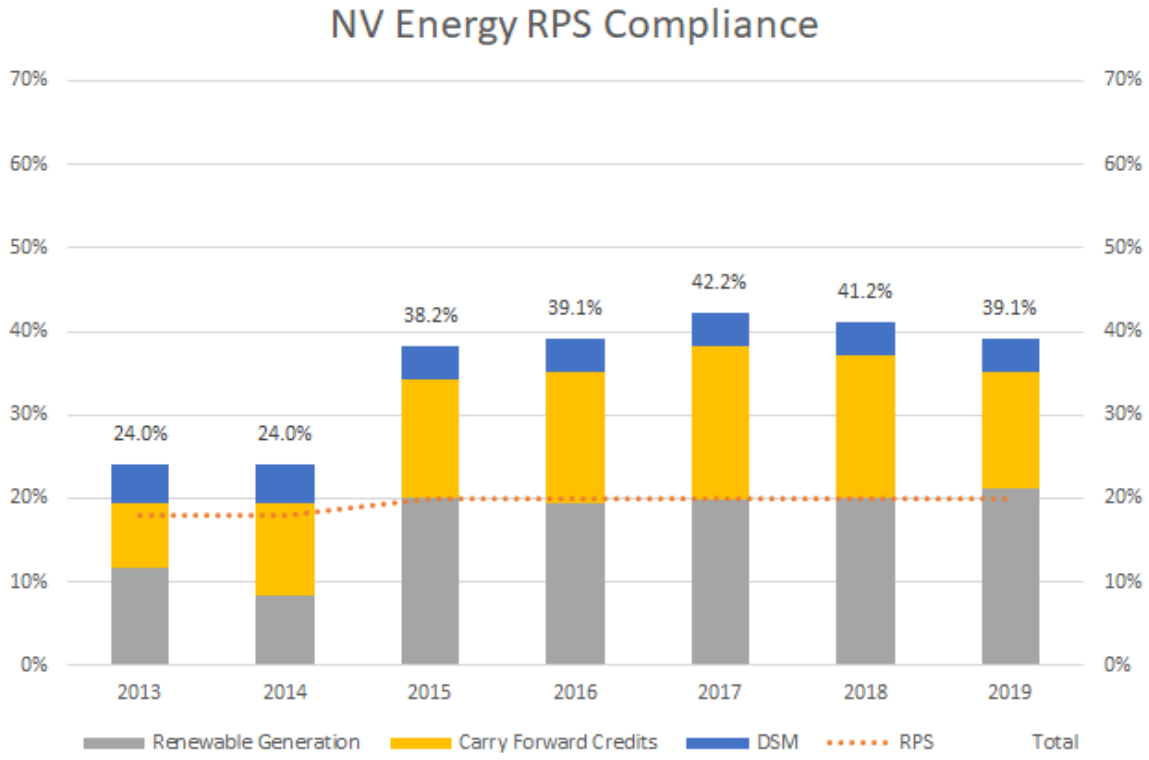


Figure 9 - NV Energy RPS Compliance
Source: NV Energy annual RPS compliance reports (2010-2018)
Notes: Carry-forward credits include both DSM and Generation; 2019 is forecasted based on NV Energy's 2018 RPS compliance report.

Nevada's Renewable Energy Portfolio

Biomass / Biogas / Landfill		
	Power Plant Name	**Capacity (MW)**
1	Clark County Landfill Energy (DCO Energy LLC)*	12.0
2	Waste Management Lockwood LFGTE (WM Renewable Energy LLC)	3.2
	Subtotal (Biomass)	**15.2**

Geothermal		
	Power Plant Name	**Capacity (MW)**
3	Beowawe Power (Terra-Gen)	17.7
4	Blue Mountain (NGP/AltaRock)	63.9
5	Brady Complex (Ormat)*	58.9
6	Dixie Valley (Terra-Gen)	70.9
7	Don A. Campbell (I & II) (Ormat)*	47.5
8	Jersey Valley (Ormat)*	23.5
9	McGinness Hills (I & II) (Ormat)*	100.0
10	Patua Phase 1A (Cyrq)*	48.0
11	Salt Wells (Enel)*	23.6
12	San Emidio (U.S. Geothermal)	11.8
13	Soda Lake No I II (Cyrq)*	26.1
14	Steamboat Complex (Ormat)*	142.5
15	Stillwater (Enel)*	47.2
16	Tungsten Mountain (Ormat)*	37.0
17	Tusarora (Ormat)*	24.0
18	Wabuska (Homestretch)	5.4
	Subtotal (Geothermal)	**748.0**

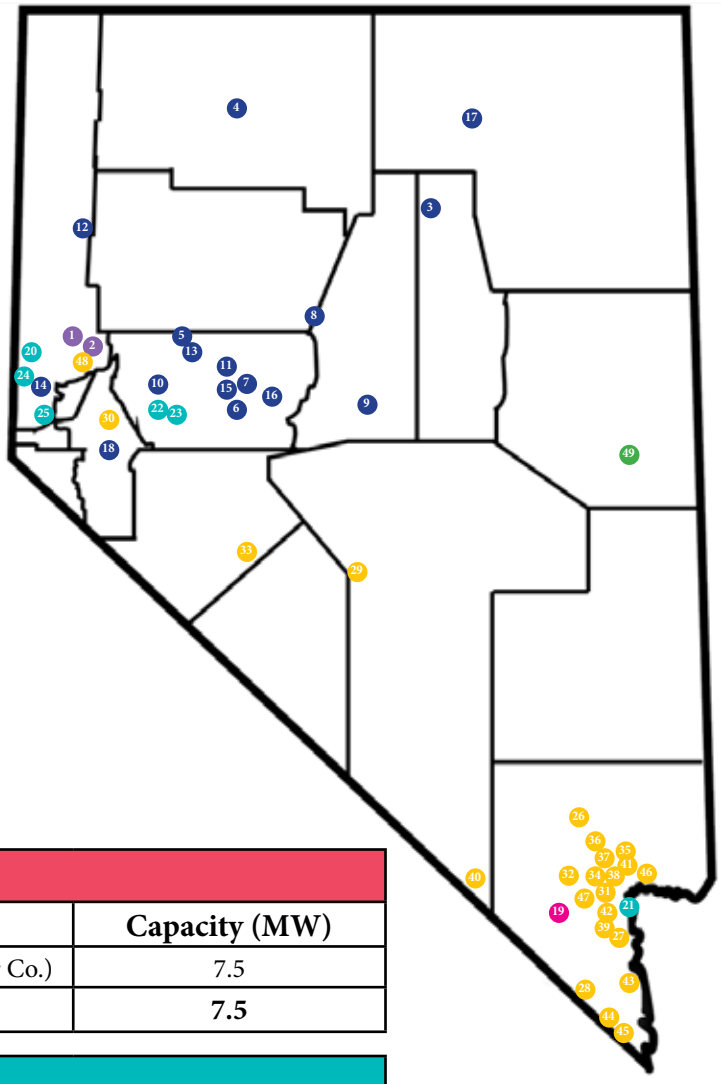


Figure 10 - Renewable Project Map

Waste Heat		
	Power Plant Name	**Capacity (MW)**
19	Goodsprings Waste Heat Recovery (Nevada Power Co.)	7.5
	Subtotal (Waste Heat)	**7.5**

Hydroelectric		
	Power Plant Name	**Capacity (MW)**
20	Fleish (Truckee Meadows Water Authority)	2.3
21	Hoover Dam (NV Allocation)	1,039.4
22	Lahontan (Truckee-Carson Irrigation District)	1.8
23	New Lahonton (Truckee-Carson Irrigation District)	4.0
24	Verdi (Truckee Meadows Water Authority)	2.2
25	Washoe (Truckee Meadows Water Authority)	2.2
	Subtotal (Hydroelectric)	**1,051.9**

Source: EIA 2017 Form 860. Schedule 3.
* Indicates participation in the RETA program.

Nevada's Renewable Energy Portfolio

Solar		
	Power Plant Name	**Capacity (MW)**
26	Apex Solar (Southern Power Co.)*	20.0
27	Boulder Solar (Southern Power Co.)*	100.0
27	Boulder Solar II (AEP Renewables)*	50.0
28	Copper Mountain 1-4 (Sempra)*	560.6
29	Crescent Dunes (SolarReserve) [1]*	125.0
30	Ft. Churchill (Apple)	19.9
31	IKEA Las Vegas (IKEA)	1.0
32	Las Vegas WPCF (City of Las Vegas)	3.3
33	Luning Energy (Algonquin Power Co.)*	50.0
34	Mandalay Bay (I & II) (MGM)	6.9
35	Moapa Southern Paiute (First Solar)*	250.0
36	Mountain View (NextEra)*	20.0
37	Nellis Air Force Base (Solar Star NAFB)*	14.0
38	Nellis PV II (Nevada Power Co.)*	15.0
39	Nevada Solar One (Acciona Solar Power) [1]	75.7
40	Nevada Valley Solar Solutions II (VEA)*	15.0
10	Patua Geothermal (Cyrq)*	10.6
41	Playa Solar (Switch I & II) (EDF)*	179.0
42	River Mountains Solar (SNWA)	14.4
43	Searchlight Solar (Searchlight Solar)*	17.5
44	Silver State Solar North (Enbridge)*	52.0
45	Silver State Solar South (NextEra)*	250.0
46	Spectrum Solar (Southern Power Co.)*	30.0
15	Stillwater (Enel)*	22.0
47	Techren Solar (I & II) (Global Atlantic Fin. Co.)*	300.0
48	Western 102 (Barrick Goldstrike Mines)	1.0
	Subtotal (Solar)	**2,203.3**

Net Metered	
Subtotal (Net Metered, All Technologies, MW)	**230**

Wind		
	Power Plant Name	**Capacity (MW)**
49	Spring Valley Wind Project (Pattern)	150.0
	Subtotal (Wind)	**150.0**
		Total 4,405.9

Source: EIA 2017 Form 860. Schedule 3.
Net Metered: EIA 2017 Form 861M (formerly 826).
[1] Concentrated Solar Plant.
* Indicates participation in the RETA program.

Energy in Nevada

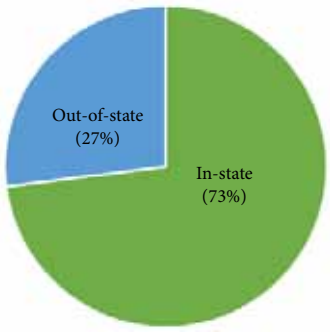


Figure 11 - Where the energy goes

Over one-quarter of the nameplate capacity of Nevada's renewable projects have Power Purchase Agreements (PPAs) out of the State.

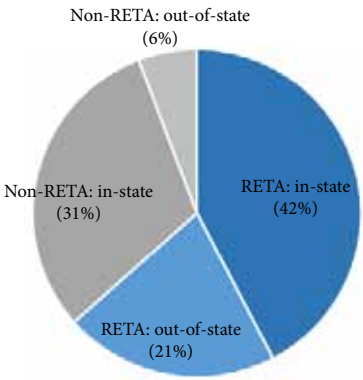


Figure 12 - Renewable projects and participation in the Renewable Energy Tax Abatement (RETA) Program relating to in/out of state PPAs

Note: refer to page 26 for more information on RETA.

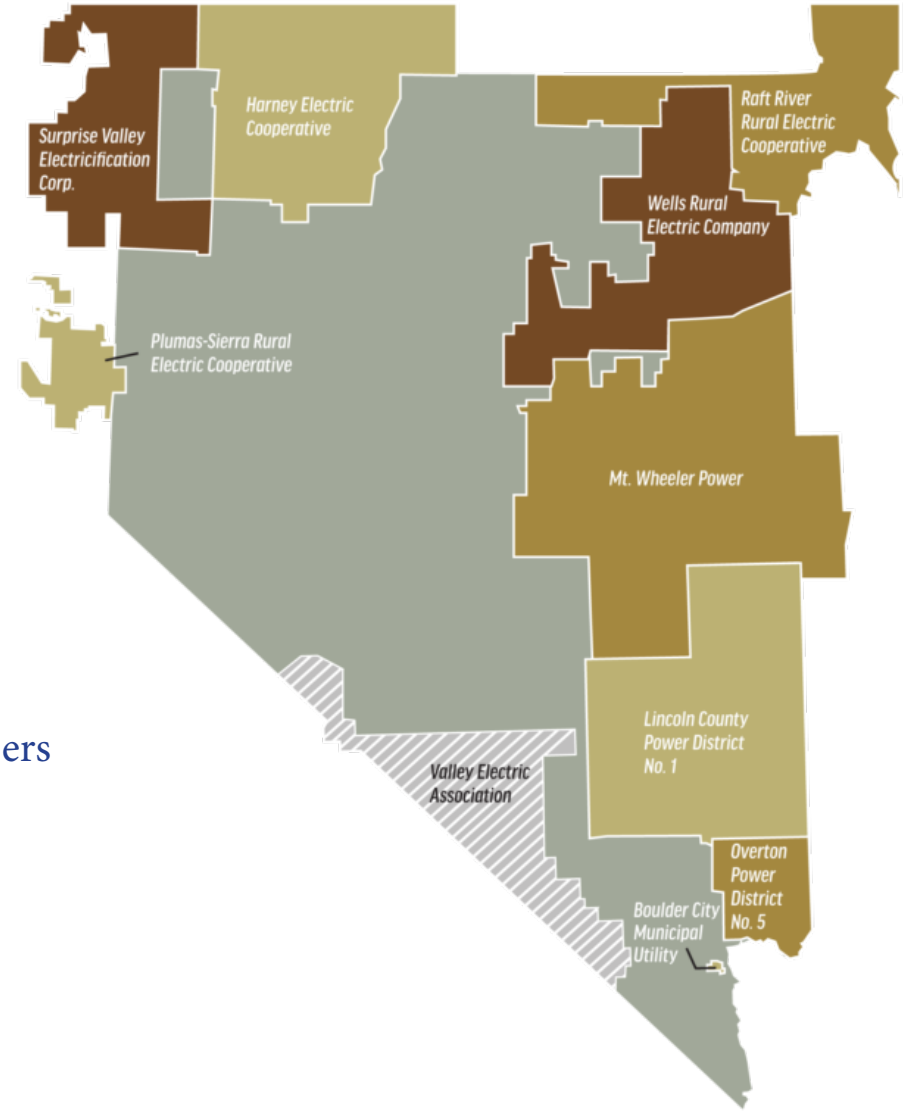
Energy in Nevada

Nevada Rural Utility Service Areas

Nevada Rural Electric Association (NREA) utilities are democratically organized and controlled by their members, who actively participate in setting policies and making decisions. Members of the Board of Directors are elected by and from local citizens who take service from the utility. Each member is cooperatively organized and owned by their members or a consumer-owned, not-for-profit utility.

NREA General Members

- Alamo Power District No. 3, Alamo, NV
- Harney Electric Cooperative, Hines, OR
- Lincoln County Power District No. 1, Pioche, NV
- Mount Wheeler Power, Ely, NV
- Overton Power District #5, Overton, NV
- Plumas-Sierra Rural Electric Co-op, Portola, CA
- Raft River Rural Electric Company, Malta, ID
- Wells Rural Electric Company, Wells, NV



NREA Associate Members

- Boulder City Electric Utility, Boulder City, NV
- Deseret Power, South Jordan, UT
- Surprise Valley Electrification Corporation, Alturas, CA

Utilities & Energy Service Providers

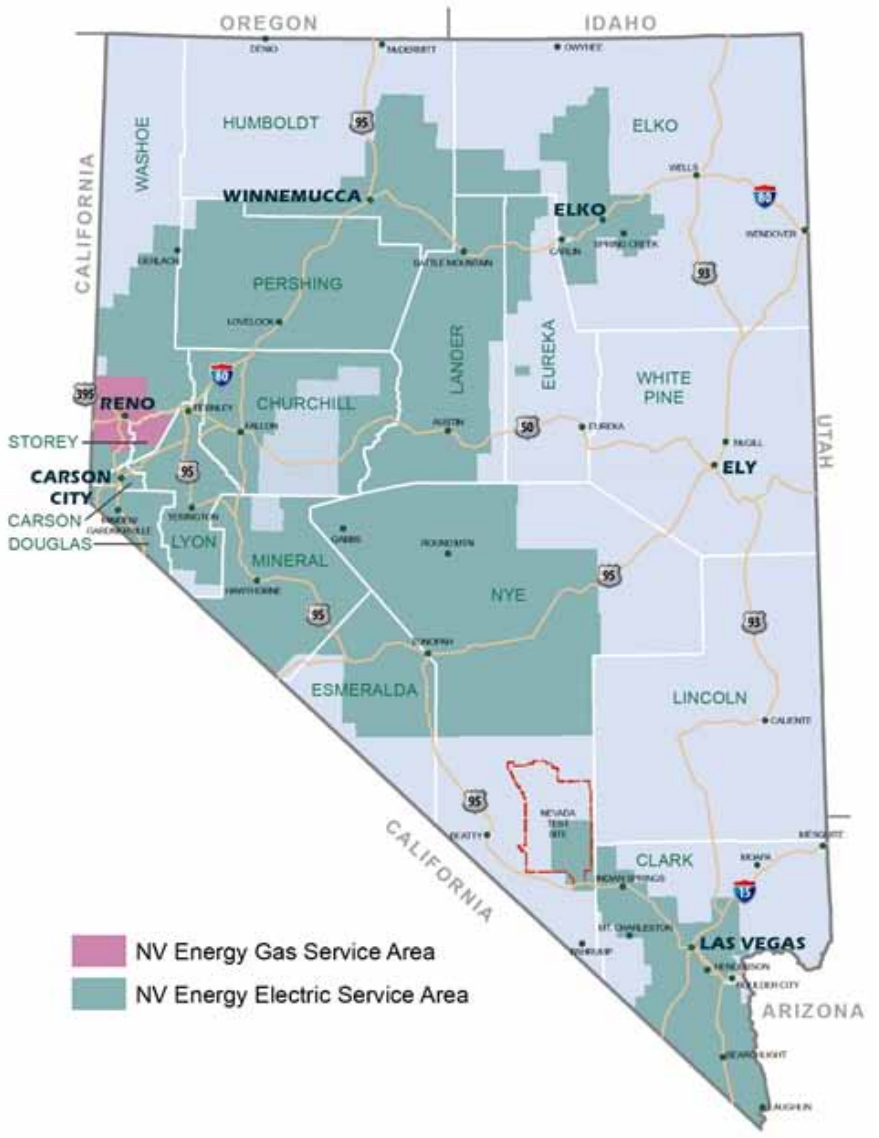
Electric energy consumption in Nevada consists of customers of the State's largest investor-owned utility (NV Energy), rural electric cooperatives, municipal utilities, and general improvement districts.

Energy in Nevada

NV Energy has served citizens in northern Nevada for more than 150 years, and southern Nevada since 1906. Today, NV Energy has a service area that covers nearly 46,000 square miles of one of the fastest growing State in the U.S., including the communities of Las Vegas, Reno-Sparks, Henderson and Elko. NV Energy provides a wide range of energy services to 1.4 million customers throughout the State and more than 50 million tourists annually. NV Energy also provides natural gas to more than 160,000 citizens in the Reno-Sparks area.

Nevada Power, Sierra Pacific Power and Sierra Pacific Resources merged in July 1999. In 2008, the subsidiaries began doing business as NV Energy.

NV Energy, which is headquartered in Las Vegas, was acquired by Berkshire Hathaway Energy in 2013.

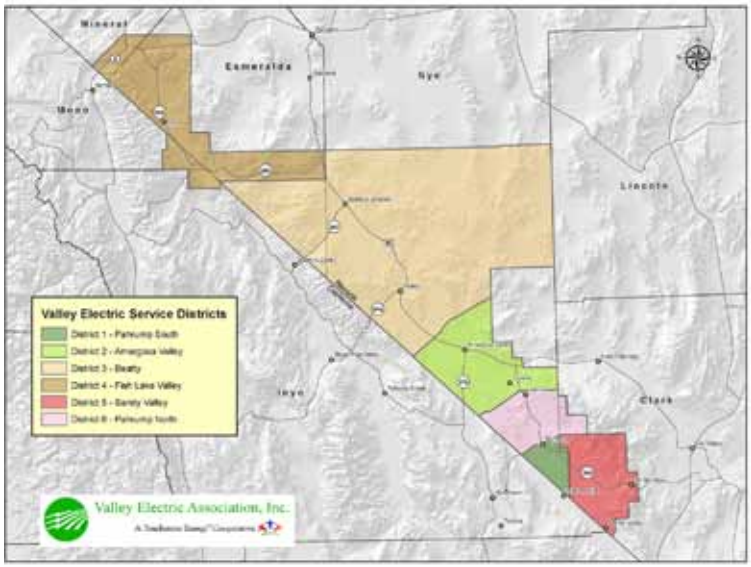


Source: NV Energy

Energy in Nevada

Valley Electric Association

Valley Electric Association, Inc. (VEA) is a member-owned electric cooperative headquartered in Pahrump, which provides service to more than 45,000 people within a 6,800-square-mile service area along the California-Nevada border. VEA's residential members are the co-op's largest single consumer group.



VEA was the first non-California utility to join the California Independent System Operator (CAISO) in 2013.

Valley Electric Association, Inc.
A Touchstone Energy® Cooperative

Southwest Gas

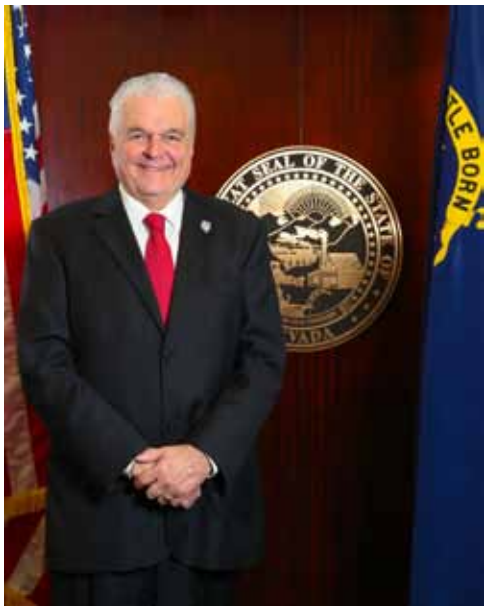
Southwest Gas Corporation is an investor-owned utility based in Las Vegas that provides natural gas service to parts of Arizona, Nevada, and California. The company is the largest distributor of natural gas in Nevada.

SOUTHWEST GAS

2019 Legislative Session

Energy in Nevada

The 80th Legislative session (2019) delivered a number of energy and climate bills to Governor Sisolak for signature. These bills supported reducing Nevada's greenhouse gas emissions, continuing to develop abundant clean energy resources, growing a decarbonized transportation sector, recognizing the impact of natural disasters to our energy infrastructure and modernizing the PUCN's approach to ratemaking.



"Renewable energy is a major cornerstone of my economic development plan, and this (SB 358) will put Nevada back on the path toward renewable energy leadership on a nationwide level and continue to bring well-paying jobs to our communities," Governor Sisolak said. "Today, Nevada sent a message to the country and world that the Silver State is open for business as a renewable leader, and our commitment to growing our clean energy economy transcends party lines."

-Steve Sisolak, Nevada Governor (April 22, 2019)

AB 54

The passage of AB 54 repealed NRS 701.215, which instructed the Director of the Governor's Office of Energy to prepare a State Energy Reduction Plan which will reduce grid-based purchases for state-owned buildings by twenty percent by 2015. The timeframe for this statute has expired, making this requirement obsolete. The State of Nevada has exceeded this goal by achieving more than thirty-five percent, as of September 2019.

AB 54 also requires the Director to establish a minimum standard of energy efficiency, which must meet or exceed forty-five lumens per watt, and to prohibit the sale of general service lamps (GSLs) that do not meet or exceed these minimum standards, adopted through regulation. The standard previously set, in NRS 701.260, expired on December 31, 2015, requiring the statute to be repealed or amended. Nevada led the charge, in 2007, adopting minimum standards for lighting efficiency, along with other early-acting states which prompted Congress and President Bush to establish federal standards that same year. Current Federal law calls for regulated bulbs (GSLs) to meet an efficiency threshold of forty-five lumens per watt.

In 2019, the Department of Energy published a final ruling, withdrawing the revised definitions of GSLs that were scheduled to take effect on January 1, 2020.

Regulations are being developed and the Governor's Office of Energy will continue the process of adopting the minimum standards and revised definitions in 2020.

Photo (Right): Gov. Sisolak signs AB 54 on May 27, 2019. (Source: GOE).

Energy in Nevada

2019 Legislative Session

AB 465

AB 465 created the "Expanded Solar Access" program with the details to be developed by the PUCN. Expanded Solar Access will support the development of utility scale and community based solar resources. Half of this program's capacity will serve low-income customers, non-profit organizations and disadvantaged businesses with the other half reserved for fully bundled customers who own, rent or lease their residence but cannot install solar resources on their premises. Low income customers would be provided a lower rate, the cost of which would be allocated across all rate classes.

There will be between 3 and 10 community based solar resources planned in collaboration with community participation and located, to the extent practicable, in communities with higher levels of low-income eligible customers. The program will also create, in partnership with the Department of Employment Training and Rehabilitation, a workforce training program for the construction of the community based solar resources.

SB 154

With the passage of SB 154, the PUCN will adopt regulations around a renewable portfolio standard for public utilities which purchase natural gas for resale to engage in renewable natural gas (i.e. gas produced by processing biogas derived from biomass, manure, plant material, sewage and landfill waste or power-to-gas processes) activities and to recover the reasonable and prudent costs of such activities. Recoverable renewable natural gas activities must demonstrate that they provide environmental benefits to this State, including reductions in greenhouse gas emissions through the development of renewable natural gas resources, creating jobs through the construction and operation of renewable natural gas facilities and the diversification of the State's energy supply.

The RPS for renewable natural gas production to be integrated into the total amount of gas sold to retail customers is:

1. By January 1, 2025, not less than 1 percent;
2. By January 1, 2030, not less than 2 percent;
3. By January 1, 2035, not less than 3 percent.

SB 254

SB 254 expands upon the Department of Conservation and Natural Resources' (DCNR) existing GHG inventory responsibilities by requiring the department to prepare, commencing in 2019, annual reports including a statewide inventory of greenhouse gas emissions in Nevada and a projection of annual greenhouse gas emissions in Nevada for the 20 years immediately following the date of the report. Each year, the GHG inventory and projection will cover emissions from electricity production and transportation. For the first and fourth year, the GHG report will also cover emissions from the following sectors: industry, commercial and residential, agriculture, and land use and forestry.

2019 Legislative Session

Energy in Nevada

SB 254 (con't)

The GHG report must also include a statement of policies, including regulations, that can achieve specific reductions in the projected GHG emissions, including a qualitative assessment of whether those policies support long-term reductions of GHG emissions to zero or near-zero by the year 2050. Intermediate GHG reductions targets included

1. 28 percent by the year 2025, as compared to the level of GHG emissions in Nevada in 2005;
2. 45 percent by the year 2030, as compared to the level of GHG emissions in Nevada in 2005;

DCNR's presentation of policies is a collaborative work with other designated agencies, including the Governor's Office of Energy, the Nevada Department of Transportation, Department of Motor Vehicles, and the Public Utilities Commission.

SB 298

This bill clarified components of Nevada's Renewable Energy Tax Abatement Program (RETA). Certified payroll records must now be provided to both the Governor's Office of Energy and the board of county commissioners of the county in which the facility is located. Wages are now defined to mean "the basic hourly rate of pay" and do not include the amount of any health insurance, pension or other bona fide fringe benefits to the employee. The Governor's Office of Energy will be able to develop a fee structure for RETA project applications and compliance reports that better reflect the office's work to support and expand renewable energy development in Nevada.

SB 299

Current law and regulation established a $15 million incentive fund for the development of an Electric Vehicle Infrastructure Demonstration Program (EVID). Payment for these programs comes from the Renewable Energy Program Rate (REPR), a tariff on all NV Energy ratepayers' monthly bills. SB 299 directs the EVID program to include payment of an incentive to an NV Energy customer that is a public school that installs electric vehicle infrastructure on the property of the public school or purchases electric vehicles dedicated to the transportation of students. This incentive cannot exceed 75 percent of the cost to install such infrastructure or purchase such vehicles.

SB 300

The enactment of this bill recognizes a need to reexamine traditional regulatory ratemaking to align the business structure of NV Energy, Nevada's investor owned utility, with new renewable mandates and technologies. It requires the PUCN to adopt regulations establishing procedures for an electric utility to submit an alternative rate-making plan. The goal for alternative rate-making is to position Nevada to create the type of flexible and nimble regulatory environment necessary to develop a modern, reliable and efficient, electric grid. Some of the demonstrable requirements for alternative rate-making include:

1. Enable delivery of electric services and options in services and pricing that customers value, including but not limited to, the development and use of renewable resources by customers that prioritize such resources above other factors, including price;
2. Foster improvement of economic and operational system-wide efficiency on the electrical grid;
3. Further the public interest, including but not limited to, the promotion of safe, economic, efficient and reliable electric service to all customers of the electric utility;
4. Enhance resilience and security of the electrical grid while addressing customer privacy concerns; and
5. Facilitate the research and development of innovative electric utility services and options for the benefit of customers.

Energy in Nevada

2019 Legislative Session

SB 329

Grid resiliency and electricity reliability have become critical issues given increasing threats to supply, distribution and transmission systems from natural disasters. Recognizing the need to plan energy resilience and reliability in the face of these challenges, SB 329 requires NV Energy to file, every third year, a "natural disaster protection plan" ("Plan") with the PUCN for its approval. If approved, the prudent and reasonable expenditures made by NV Energy for its Plan may be recovered as a separate monthly rate to all customers.

The Plan requires descriptions of processes and protocols including, but not limited to:

1. A proposed approach for mitigation of potential fires or other natural disasters that is cost effective, prudent and reasonable;
2. Preventative measures and programs that will minimize the risk of electric infrastructure causing a fire;
3. Protocols for de-energizing distribution lines;
4. Procedures for vegetation management;
5. Procedures to restore distribution systems in the event of a natural disaster;
6. A description of additional funding needed for the implementation of the plan.

These proposed procedures, protocols and measures must be compliant with all applicable requirements of the most recent version of the International Wildland-Urban Interface Code, published by the International Code Council. Rural electrical cooperatives, established under NRS Chapter 81, may also submit a natural disaster plan to the PUCN for its review, advice and recommendation.

SB 358

SB 358 increased Nevada's Renewable Portfolio Standard (RPS) from requiring that by 2025, 25% of the electricity certain utilities sell comes from renewable resources to requiring that by 2030, 50% of the electricity. It also set forth a 2050 goal of achieving an amount of energy production from zero carbon dioxide emission resources that is equal to the total amount of electricity sold by providers of electric service in the State.

SB 358 also included hydropower for purposes of compliance and expands the definition of "provider of electric service" to providers of new electric resources for the purposes of compliance with the RPS. Customers that have previously exited the system under NRS Chapter 704b will also need to comply with the RPS standard as it increases. It also limited the authority for a provider of new electric resources to use energy efficiency measures to comply with the RPS. The PUCN is tasked with establishing regulations to implement the new RPS requirements.

SB 358 tasked electric service providers that are subject to NRS 704.787 to provide RPS compliance reports to the Governor's Office of Energy. These annual reports must contain information detailing, among other items required by NRS 704.7825, the amount of electricity generated, acquired or saved from portfolio energy systems or efficiency measures. The reports from these providers can be found at: http://energy.nv.gov/Resources/Renewable_Portfolio_Standard_Reporting/.

2019 Legislative Session

Energy in Nevada

SB 428

As Nevada looks to build out electric vehicle charging infrastructure, ensuring that infrastructure is accessible is an important part of growing the electric vehicle market. SB 428 ensured that electric vehicles can access charging infrastructure by making it unlawful to park a vehicle in a parking space designated for electric or hybrid vehicle charging unless the vehicle is being charged. It also established penalties, up to $750 for a third or subsequent violation, for this offense.

SB 547

This bill revised the eligibility criteria for certain customers of an electric utility to apply to the PUCN to purchase energy, capacity or ancillary services from a provider of new electric resources. Key among these changes is that a customer may not exit unless the PUCN determines the application is in the public interest. Previously, the PUCN's determination was based on whether the application was found to be contrary to the public interest. It also revised the requirements a provider of new electric service must satisfy to be authorized to sell energy, capacity or ancillary services to eligible customers. This includes holding a license pursuant to regulations adopted by the Commission.

If the PUCN approves such an application, the PUCN must order terms, conditions and payments (i.e. "exit fees") deemed necessary and appropriate to ensure that the transaction will not be contrary to the public interest. The eligible ("exited") customer is now authorized to begin purchasing energy, capacity and ancillary services. SB 547 also required the PUCN to adopt regulations to establish a procedure by which an exited customer can return to purchasing bundled electric service from the utility.

Future Integrated Resource Plans (IRP) must now include a proposal for annual limits on the energy and capacity that may be purchased from providers of new electric resources and limits the annual time frame in which an eligible customer may submit such an application. The PUCN must now consider, in determining whether to approve or modify these proposed annual limits, whether the proposed limits promote safe, economic, efficient and reliable electric service, align an economically viable utility model with state public policy goals and encourage the development and use of renewable energy resources.

Photo (Above): On Earth Day 2019, Gov. Sisolak signs AB 358 into law. (Source: GOE).

Energy in Nevada

2019 Legislative Session

SCR 1

This resolution directed the Legislative Committee on Energy to conduct a broad interim study in potential partnership with the Nevada System of Higher Education (NSHE) for analysis, recommendations and potential future legislation concerning the development of renewable energy and clean energy resources in this State, and more specifically, topics including:

1. Geothermal development and direct-use applications, as well as continued development at the Frontier Observatory for Research in Geothermal Energy (FORGE) site;
2. Lithium extraction and applications;
3. Energy efficiency measures and on-site renewable generation in new residential and commercial construction and public facilities;
4. Workforce and curriculum development, and academic infrastructure development related to renewable and clean energy at the state's community colleges and universities.
5. Renewable energy development on disturbed land and mapping potential renewable siting and extractive resources
6. Methods for implementing micro-grids, distributed generation and off-grid developments for grid resiliency.

SCR 3

Pursuant to this resolution, the Legislative Committee on Energy ("the Committee") shall conduct an interim study to consider alternative solutions for transportation system funding in Nevada. Specifically, the study will analyze:

1. The benefits of the use of electric vehicles and the costs of transportation-related pollution, including, but not limited to greenhouse gas emissions;
2. Funding needs to maintain Nevada's public roads and highways; and
3. Methods to ensure that owners of all vehicles in the State of Nevada equitably contribute to the cost of maintaining public roads and highways, while maximizing social benefits and minimizing social costs.

2019 Nevada Energy Policy Updates

Energy in Nevada

Regional Electric Vehicle West Plan (REV West)

In 2019, Governors from Nevada, Colorado, Utah, Idaho, Wyoming, New Mexico, Montana and Arizona signed an updated REV West commitment and released voluntary minimum standards of EV charging station development.

REV West began in 2017, when the Governor's Office of Energy led a multi-state effort to coordinate and encourage EV infrastructure development along major interstates throughout the western region. Nevada is a critical hub for the adoption of EV infrastructure across the West and is working directly with neighboring states to coordinate priority corridors, siting considerations and technical standards.

After an initial partnership was announced between Nevada, Colorado, and Utah, a Memorandum of Understanding was signed in October 2017 announcing the Regional Electric Vehicle "REV" West Plan that was expanded to also include Idaho, Wyoming, New Mexico, and Arizona.

Photo (Above): REV West State representatives meet in Salt Lake City, Utah. (Source: Utah Governor's Office of Energy Development).

The updated MOU signed in December 2019 in Las Vegas, NV calls for the goal to ensure drivers can "seamlessly drive an electric vehicle across the Signatory States' major transportation corridors."

The Voluntary Minimum Standards for Direct-Current Fast Charging (DCFC) Stations includes standards for administration, interoperability, operations and management. The standards are the result of collaboration between the signatory states, with the input from the private sector.

The REV West group continues to meet and is co-chaired by Nevada.

Energy in Nevada

2019 Nevada Energy Policy Updates

U.S. Climate Alliance

"By joining the U.S. Climate Alliance, we are taking bold steps to ensure a better, healthier future for our children. With these ambitious goals and commitments to reduce Nevada's carbon footprint, I am determined to make Nevada part of the solution."
-Gov. Steve Sisolak, March 12, 2019.

Photo (Above): Gov. Sisolak announcing Nevada joining the U.S. Climate Alliance in March 2019 in Carson City. (Source: GOE).

Governor Steve Sisolak's commitment to tackling climate change in Nevada accelerated on March 12, 2019 when he announced that Nevada would join the U.S. Climate Alliance (USCA), a bipartisan coalition of twenty-five governors committed to reducing greenhouse gas emissions consistent with the goals of the Paris Agreement.

As a member of the USCA, Nevada will support the climate goals established at the 2015 Paris Conference, including:

- Implementing policies that advance the goals of the Paris Agreement, aiming to reduce greenhouse gas emission by at least 26-28 percent below 2005 levels by 2025;
- Track and report progress to the global community in appropriate settings, including when the world convenes to take stock of the Paris Agreement; and
- Accelerate new and existing policies to reduce carbon pollution and promote clean energy deployment at the state and federal level.

USCA members recognize that smart, coordinated state action can ensure the United States continues to contribute to the global effort to address climate change while growing their economies and creating well-paying jobs that can't be exported. USCA states represent commitments from 25 Governors, 55 percent of the U.S. population and an $11.7 trillion economy. The significant economic impact of the USCA exceeds the economies of all countries but the United States and China. USCA states' work in innovative climate and clean energy policies has helped create in excess of 1.7 million clean energy jobs and attracted billions of dollars of new investment.[1]

As Nevada works to develop a comprehensive climate strategy as directed by Governor Sisolak's Executive Order 2019-22, the state's membership in the USCA provides access to innovation and collaboration across climate policy "topic areas" including power sector modernization, advanced transportation, energy efficiency, clean energy finance and land use.

[1]Source: USCA: https://static1.squarespace.com/static/5a4cfbfe18b27d4da21c9361/t/5ccb5aa56e9a7f542fe4233c/1556830885910/USCA+Factsheet_April+2019.pdf

2019 Nevada Energy Policy Updates

Energy in Nevada

Executive Order No. 2019-22 Advancing Nevada's Climate Goals

Photo (Above): Gov. Sisolak signs Executive Order No. 2019-22 in front of RTC Washoe's Electric Bus in Reno. (Source: GOE).

"Pursuing these ambitious emissions reductions goals will require collaboration with local governments, tribal governments, businesses, and stakeholders from all across Nevada," Governor's Office of Energy Director David Bobzien said. "This Executive Order provides the direction and framework for both combating climate change and realizing the economic opportunities of a decarbonized economy."

To further Nevada's climate action under the USCA goals and SB 254, Governor Sisolak signed Executive Order 2019-22 (EO) on November 22, 2019[1]. The EO builds on SB 254 and its inventory of policies that may help reach economy-wide greenhouse gas emission reduction goals, as well SB 254's call for collaboration across the State's agencies. The EO calls for the policy options required under SB 254 to be developed under the leadership and direction of the Department of Conservation and Natural Resources and the Governor's Office of Energy and in coordination with applicable state agencies.

The EO directs these agencies to collaborate and develop a State Climate Strategy to be delivered to Governor Sisolak by December 1, 2020. Nevada's Climate Strategy will include specific policy and budget recommendations to reduce greenhouse gas emissions and mitigate the effects of climate change. These policies will include economy-wide or sector-specific programs that can reduce carbon dioxide and other greenhouse gas pollution emissions across Nevada.

State agencies will also work to identify and evaluate the potential integration of climate change mitigation and adaptation practices in their programs and operations, including building energy efficiency projects.

The current programs administered by the Governor's Office of Energy include efforts to reduce energy use and decarbonize the economic sectors identified in Senate Bill 254 and the Executive Order. These programs include support for transportation decarbonization through the development of electric vehicle infrastructure, advancing innovative building codes that can reduce energy costs for Nevada's businesses and residents, and to continue to spur the development of Nevada's renewable energy resources.

[1]Source: http://gov.nv.gov/News/Executive_Orders/2019/Executive_Order_2019-22_Directing_Executive_Branch_to_Advance_Nevada_s_Climate_Goals/

Governor's Office of Energy Programs

Nevada Electric Highway

The Nevada Electric Highway (NEH) began as a partnership between the Governor's Office of Energy, NV Energy, and Valley Electric Association to expand the state's electric vehicle (EV) charging infrastructure by placing charging stations at cost-effective and strategic locations, initially along U.S. 95 between I-80 and Las Vegas. With the influx of the Volkswagen Mitigation Trust Settlement funds allocated to Nevada in 2018, the program grew to include I-80, I-15, US-50, US-93, and additional locations on US-95. The program is a partnership with the energy service providers in the state including, NV Energy, Valley Electric Association, Harney Electric Cooperative, Raft Rural Electric Cooperative, Wells Rural Electric, Mt. Wheeler Power Co., Lincoln County Power District No. 1 and Overton Power District No. 5.

Photo (Above): Overton Power District's chargers installed in Mesquite, NV. (source: OPD).

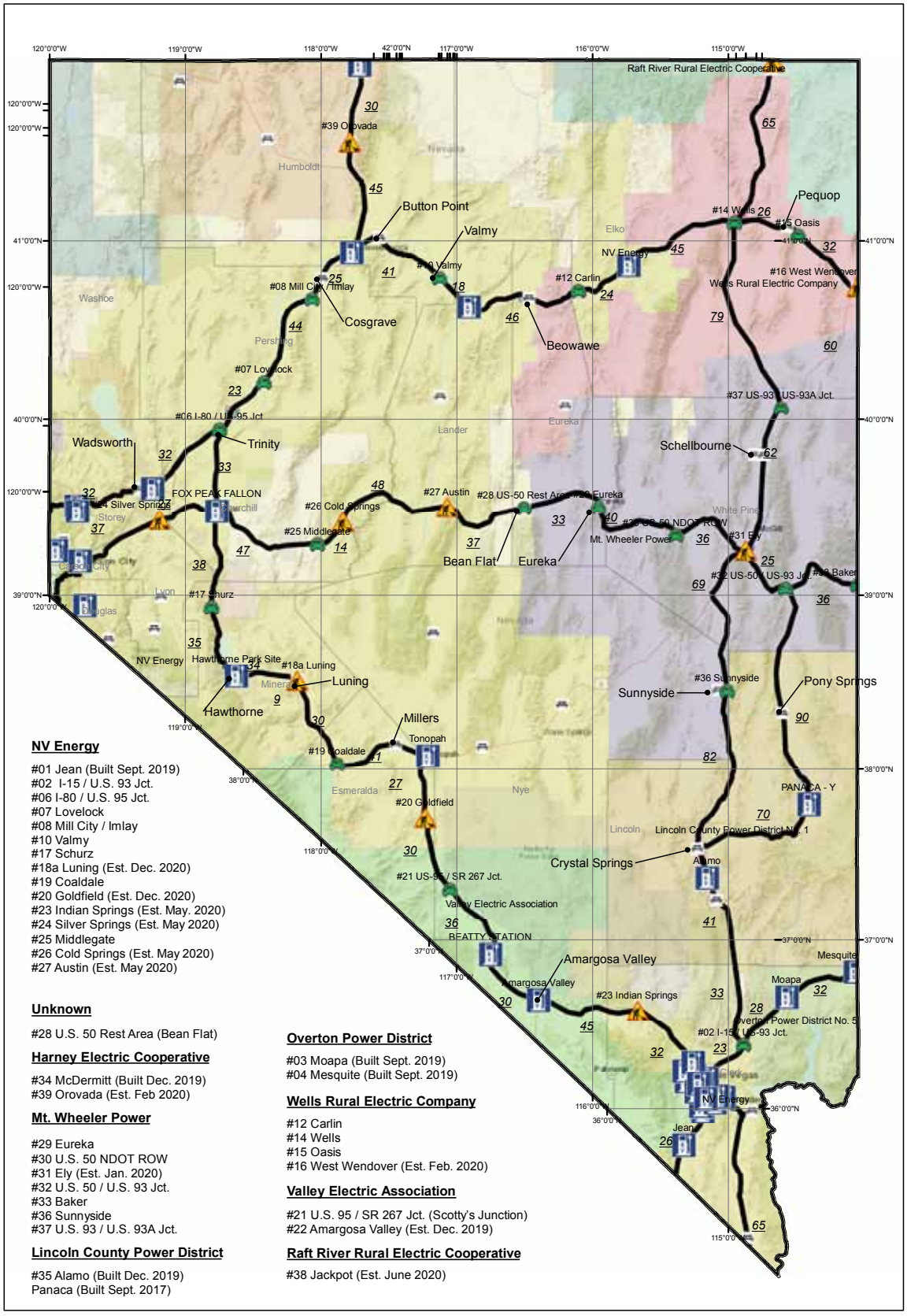
In 2019, the NEH program kicked into high gear with 16 active projects and a number of project completions. To date 8 projects have been completed under the NEH program with many more near completion, including the necessary build out of I-15 to designate it as a complete interstate electric vehicle corridor under the Federal Highway Administration's (FHWA) Alternative Fuel Corridors program.

Completed Projects

- Beatty (Feb. 2016)
- Fallon (Nov. 2016)
- Panaca (Sept. 2017)
- Hawthorne (May 2018)
- Tonopah (May 2019)
- Jean (Sept. 2019)
- Moapa (Oct. 2019)
- Mesquite (Oct. 2019)

Photo (Above): Harney Electric Cooperatives charging station at the Quinn River in McDermitt, NV. (source: HEC).

Photo (Left): Ribbon cutting celebration at the Terrible Herbst Chevron in Jean, NV. (source: NV Energy).



NV Energy

#01 Jean (Built Sept. 2019)
#02 I-15 / U.S. 93 Jct.
#06 I-80 / U.S. 95 Jct.
#07 Lovelock
#08 Mill City / Imlay
#10 Valmy
#17 Schurz
#18a Luning (Est. Dec. 2020)
#19 Coaldale
#20 Goldfield (Est. Dec. 2020)
#23 Indian Springs (Est. May. 2020)
#24 Silver Springs (Est. May 2020)
#25 Middlegate
#26 Cold Springs (Est. May 2020)
#27 Austin (Est. May 2020)

Unknown

#28 U.S. 50 Rest Area (Bean Flat)

Harney Electric Cooperative

#34 McDermitt (Built Dec. 2019)
#39 Orovada (Est. Feb 2020)

Mt. Wheeler Power

#29 Eureka
#30 U.S. 50 NDOT ROW
#31 Ely (Est. Jan. 2020)
#32 U.S. 50 / U.S. 93 Jct.
#33 Baker
#36 Sunnyside
#37 U.S. 93 / U.S. 93A Jct.

Lincoln County Power District

#35 Alamo (Built Dec. 2019)
Panaca (Built Sept. 2017)

Overton Power District

#03 Moapa (Built Sept. 2019)
#04 Mesquite (Built Sept. 2019)

Wells Rural Electric Company

#12 Carlin
#14 Wells
#15 Oasis
#16 West Wendover (Est. Feb. 2020)

Valley Electric Association

#21 U.S. 95 / SR 267 Jct. (Scotty's Junction)
#22 Amargosa Valley (Est. Dec. 2019)

Raft River Rural Electric Cooperative

#38 Jackpot (Est. June 2020)

Nevada Electric Highway

DC Fast Charging Station
GOE planned DC Fast Charging Station
NDOT Rest Area
DC Fast Charging Station In-Construction

0 50 100 200 Miles

Nevada Governor's Office of Energy

Updated 1/2020; v2.11

Governor's Office of Energy Programs

Renewable Energy Tax Abatement Program

{See NRS 701A.300-390 & NAC 701A.500-660}

The Renewable Energy Tax Abatement (RETA) Program awards partial sales and use tax and partial property tax abatements to renewable energy facilities. To be eligible, projects must employ at least 50% Nevada workers, pay 175% of Nevada's average wage during construction, and offer health care benefits to workers and their dependents. The Governor's Office of Energy reviews the applications, conducts public hearings to determine eligibility, and reviews annual compliance reports after abatements are granted.

The Renewable Energy Tax Abatement Program is a crucial tool in attracting developers to Nevada because it provides an incentive for the construction of commercial power plants. These projects increase Nevada's tax revenue and lead to job creation in a growing industry.

Since the Program's inception, Nevada's investment of $941 million in tax abatements has attracted $8.3 billion in capital investments, payroll, and taxes paid. The projects that have received an abatement from the Governor's Office of Energy created 9,500 jobs that paid an average wage of over $41 an hour. This represents a total of 44 renewable power plants and one transmission project in Nevada.

Photo: Copper Mountain 5 (Source: Sempra Energy).

Projects granted a tax abatement in 2019:

COMPANY	TYPE	MW	PPA	ABATEMENT / INVESTMENT
Techren III	Solar	25	NVE	$4,248,304 / $17,011,578
Techren IV	Solar	25	NVE	$4,331,200 / $17,079,401
Techren V	Solar	50	NVE	$7,623,132 / $27,558,935
Harry Allen	Solar	100	MGM	$18,164,426 / $158,234,892
Copper Mountain 5	Solar	250	NVE	$25,023,167 / $74,500,812
Ormat/Steamboat	Geothermal	33	SCPPA	$11,316,609 / $117,667,609
Turquoise Nevada	Solar	50	NVE	$8,794,950 / $74,500,812

Revolving Loans for Renewable Energy, Energy Efficiency, and Energy Conservation

Governor's Office of Energy Programs

{See NRS 701.545-595 & NAC 701.600-700}

The Governor's Office of Energy administers the Revolving Loan Fund for projects that develop or expand renewable energy systems, energy efficiency projects, energy conservation, and manufacturing of components of renewable energy systems in Nevada. Over $18 million has been funded, since inception, under the federal American Recovery and Reinvestment Act of 2009.

ACTIVE PROJECTS	SIZE	TYPE	COUNTY	YEAR
Residence Washoe Valley (1)	7 kW	Wind	Washoe	2010
City of Las Vegas - East Yard	100 kW	PV	Clark	2014
City of Las Vegas - West Yard	200 kW	PV	Clark	2014
City of Las Vegas - Durango Hills	200 kW	PV	Clark	2014
Railroad Valley Farms	305 kW	PV	Nye	2017

Photo (Above): Railroad Valley Farms (Source: Railroad Valley Farms, LLC).

Governor's Office of Energy Programs

Nevada Clean Energy Fund (NCEF)

Established by Senate Bill 407 (2017), NCEF is an independent, nonprofit corporation to provide funding for, and increase significantly, the pace and amount of financing available for qualified clean energy projects in the State; improve the standard of living by promoting more efficient and lower cost clean energy projects that create high-paying, long-term jobs; foster the development of transparent underwriting standards, standard contractual terms, and measurement and verification protocols for clean energy projects; promoting the creation of performance data that enables effective underwriting, risk management and pro forma modeling of financial performance of qualified clean energy projects to stimulate the development of secondary investment markets; and achieving a level of financing support for clean energy projects in the State.

SB 407 also created the Board of Directors to administer NCEF and set forth the duties of the Board.

Nevada Clean Energy Fund Board of Directors (section 16 of SB 407)

(a) The Director of the Office of Energy – David Bobzien
(b) The Executive Director of the Office of Economic Development or his or her designee – Michael Brown
(c) The Real Estate Administrator of the Department of Business and Industry or his or her designee – Sharath Chandra
(d) The Commissioner of Financial Institutions or his or her designee – Sandy O'Laughlin
(e) One member appointed by the Governor from among a list of nominees submitted by the State Contractors' Board – VACANT
(f) One member appointed by the Governor from among a list of nominees submitted by labor organizations in this State - VACANT
(g) One member appointed by the Governor from among a list of nominees submitted by the board of county commissioners of the county in this State with the largest population – VACANT
(h) One member appointed by the Governor from among a list of nominees submitted by the board of county commissioners of the county in this State with the second largest population – Jason Geddes
(i) One member appointed by the Governor from among a list of nominees submitted by the boards of county commissioners of the counties in this State not described in paragraph (g) or (h) – Robert Johnston

The Coalition for Green Capital (CGC) is providing pro bono consulting services to the NCEF to assist with the startup of the organization including business planning and staffing, fundraising and operating support. This activity is funded with philanthropic grants provided to the CGC.

In 2019 there were four new appointments to the board. Recommendations to fill the three vacant seats have been submitted and are pending appointment. The board has scheduled a meeting for the first quarter of 2020.

Property Assessed Clean Energy (PACE)

Governor's Office of Energy Programs

During the 2017 Legislative Session the Governor's Office of Energy sponsored Assembly Bill 5 which enabled local governments to implement commercial PACE programs. PACE is a financing mechanism that supplies upfront costs for renewable energy and energy efficiency projects. It is a loan that is paid back over time through a voluntary special assessment and allows for the transfer of the loan obligation to the next owner.

Benefits of PACE

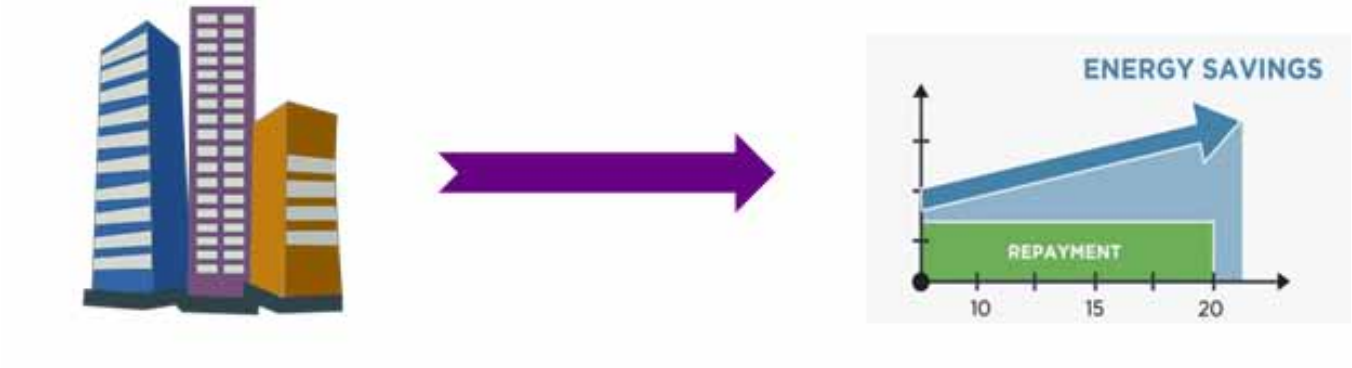
PACE funding covers 100% of a project's hard and soft costs and will often have guaranteed low interest rates for terms of up to 20 years. The long loan amortization enables positive cash flow resulting in annual energy savings that are larger than the annual repayment. PACE increases the value of properties, creates jobs, helps the state achieve its policy goals and boosts the local economy bringing private investment dollars to local communities.

State of Nevada Updates

The Governor's Office of Energy along with the City of Las Vegas and City of Reno have been selected to participate in the U.S. Department of Energy Commercial PACE Working Group. The goal of this working group is to develop tools and solutions to barriers facing state and local government. In order to create awareness and provide resources for local governments, the Governor's Office of Energy hosted a PACE webinar. The webinar provided an overview of PACE, a discussion on benefits to property owners and local governments and an overview of the first steps a local government must take when implementing PACE.

The City of Las Vegas launched the first Commercial PACE program in Nevada in late 2019. The program is administered by Sustainable Real Estate Solutions, Inc. (SRS). The program administrator is responsible for program management and quality assurance as well as property owner project application processing and support services to stakeholders.

The City of Reno followed close behind and in October 2019 established a Commercial PACE program in Reno. The City of Reno has hired a third-party administrator to develop and administer the program.



Governor's Office of Energy Programs

Direct Energy Assistance Loan (DEAL) Program

The Direct Energy Assistance Loan (DEAL) Program was a pilot program that provided State of Nevada employees an interest-free loan for energy efficiency upgrades at their home. The loan is paid off via a monthly payroll deduction. The Governor's Office of Energy funded the program and the Nevada Housing Division administered it through its established delivery system of contractors.

The program aided 139 State of Nevada employees who received weatherization improvements at their home through the DEAL program since its inception. The counties that saw the most State of Nevada employees apply for DEAL were Carson City, Washoe, Clark, and Lyon. The resulting savings of these energy efficiency measures will reduce energy consumption an estimated 354,138 kilowatt hours and 48,624 therms annually. The average savings per home are 2,548 kWh and 350 therms annually.

Program Requirements

To be eligible for a loan, State of Nevada employees must meet the following criteria:

- Be an active full-time employee, employed at least 12 months by the State of Nevada
- Must be part of the Nevada Employee Action and Timekeeping System (NEATS)
- Must not owe debt to the State of Nevada
- Must own the home
- Must be an electric customer of NV Energy

Once an employee's application is accepted, a State-approved energy auditor conducts an assessment of the home and recommends energy savings measures. After the employee selects from the recommended measures, the contractor performs the upgrades and receives payment from the Nevada Housing Division. The maximum payback length is 60 months. A loan of $1 – $3,000 has a monthly payment of $50; a loan of $3,001 – $6,000 has a monthly payment of $100. Employees who are U.S. military veterans are eligible for loans of up to $8,000, with a longer term.

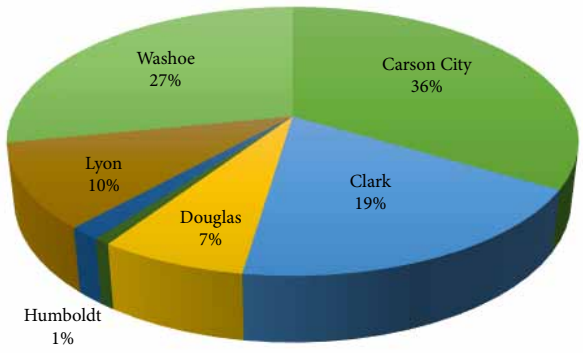


Figure 13 - DEAL Participation by County

Photo: GOE staff and a Nevada Housing Division contractor use a thermal spectrometer to test heat loss at a State employee's home in Washoe County (Source: GOE).

Home Energy Retrofit Opportunities for Seniors (HEROS) Program

Governor's Office of Energy Programs

The HEROS Program provides energy assessments of qualifying seniors' homes and installation of recommended weatherization measures. The Governor's Office of Energy funds the program and the Nevada Housing Division administers the program through its established delivery system of contractors.

The program reduces energy costs for savings by improving the energy efficiency of their homes. HEROS funding of up to $8,000 is offered at no cost to qualifying seniors who own their home. Since the Program's inception in 2015, 1065 homeowners have received weatherization benefits. Each senior participant annually saved an average of 7,640 kilowatt hours (kWh) of electricity and 277 therms of natural gas in their home. This represents an annual savings of $1,247 on their utility bills which equates to a 64% savings.

Program Requirements

- Be age 60 years or greater
- Be an NV Energy customer
- Own and reside in the home
- Have an income at or below 200% of federal poverty guidelines

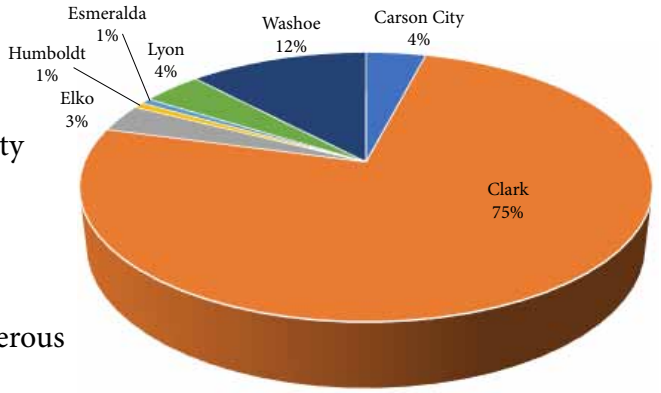


Figure 14 - HEROS Participation by County

Benefits

- Helps seniors live in healthier, safer homes
- Weatherization diagnostic tests help identify dangerous carbon monoxide levels
- Makes home more comfortable thanks to better temperature distribution
- Makes home more efficient, resulting in lower monthly energy costs for each household

Contract Recommended Measures Include:

- Air and duct sealing
- Low flow shower head install
- Broken window repair
- Water heater replacement
- HVAC repair or replacement
- Solar screens (Southern Nevada only)
- Attic insulation
- CFL or LED retrofits
- Floor insulation

Photo (above): Governor's Office of Energy David Bobzien inspecting a HEROS project in Carson City (Source: GOE).

Service Providers:

CSA HELP RNDC Nevada Rural Housing Authority

Governor's Office of Energy Programs

Performance Contract Audit Assistance Program

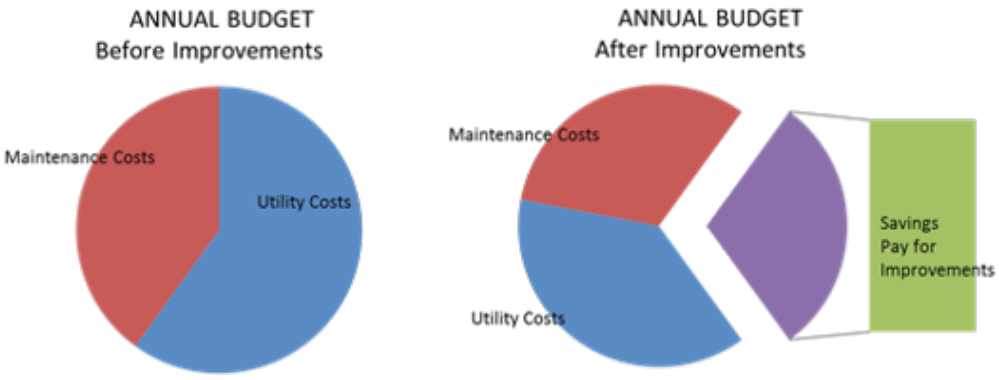
Performance contracting is an alternative financing mechanism to accelerate investment in cost-effective energy conservation measures and accomplish energy savings projects without up-front capital. It is a partnership between a building owner and an Energy Service Company (ESCO) that conducts an energy audit identifying improvements that will save energy. The ESCO guarantees that the improvements will generate cost savings sufficient to pay for the project over the term of the contract.

The Performance Contract Audit Assistance Program (PCAAP) funds a financial grade audit, which is the first step to determine if a project is worth pursuing. Since PCAAP's inception in 2014, the Governor's Office of Energy has awarded $1.7 million to accelerate performance contracting, resulting in project investments totaling $100 million, while creating an estimated 730 jobs, saving over 51 million kilowatt hours, and 463,000 therms annually.

Upgrade Government Buildings: Performance contracting offers an opportunity to upgrade and modernize government facilities by replacing aging HVAC equipment and thermostats, installing indoor and outdoor LED lighting, improving plug load management systems, and improving water conservation. These improvements decrease operations and maintenance costs and simplify the management of municipal energy budgets. This is all accomplished with no up-front capital costs.

Financial Benefits: A few financial examples include but are not limited to: reduced taxpayer burden of growing energy budgets, incorporation of renewable energy, and job creation right here in Nevada. Also, the contractually guaranteed and measured savings reduce the risk of savings erosion over time. Finally, the use of a third-party financing mechanism ensures that energy efficiency improvements are completed and that the guaranteed reduced energy costs are achieved.

Quality Assurance: All contractors performing the Financial-Grade Operational Audit (FGOA) are Nevada licensed ESCO pre-approved through the Public Works Division (PWD). The ESCOs are also overseen by PWD pre-qualified third-party consultants for performance contracting projects. The Governor's Office of Energy has also developed model contract documents to guide municipalities through the process. Additionally, applicants must utilize e-Project Builder to store and track the performance contract progress and document best practices.



International Energy Conservation Code

Governor's Office of Energy Programs

{See NRS 701.220 & NAC 701.010-245}

The International Energy Conservation Code (IECC) is a model for the establishment of minimum design and construction requirements for energy efficiency.

The Governor's Office of Energy recognizes the importance of advancing energy efficiency through the most recently published version of the IECC every three years and has committed to adopting the newest version upon publication pursuant to NRS 701.220 and NAC 701.185 as amended under R153-17.

Photo (Above): Jamie Fitzke, Program and Policy Manager with the Center for Energy and Environment and Robin Yochum, GOE Program Manager discuss the importance of energy efficient codes while attending the National Energy Codes Conference in Denver, CO. (Source: GOE)

The Governor's Office of Energy is committed to reducing greenhouse gas emissions within the built environment and the IECC is a crucial part in achieving those goals. The Governor's Office of Energy participated in the development process of the 2021 IECC as a governmental voting member at the public comment hearings held in Las Vegas in October of 2019 and the online voting that took place in November.

Internationally, code officials recognize the need for a modern, up-to-date energy conservation code addressing the design of energy-efficient building envelopes and installation of energy-efficient mechanical, lighting and power systems through requirements emphasizing performance. The IECC is designed to meet these needs through model code regulations that will result in the optimal utilization of fossil fuel and nondepletable resources in all communities, large and small.

This code contains separate provisions for commercial buildings and for low-rise residential buildings (three stories or less in height above grade). Each set of provisions, IECC—Commercial Provisions and IECC—Residential Provisions, are separately applied to buildings within their respective scopes.

This comprehensive energy conservation code establishes minimum regulations for energy-efficient buildings using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new energy efficient designs. The IECC is fully compatible with the Family of International Codes.

Photo (Left): Nevada GOE and NDEP staff along with other state energy offices, building officials, and other stakeholders attending the 2021 IECC Public Comment Hearings in Las Vegas, NV. (Source: GOE)

Governor's Office of Energy Programs

Green Building Tax Abatement Program

{See NRS 701A.100-110 & NAC 701A.010-370}

The Governor's Office of Energy administers the Green Building Tax Abatement (GBTA) program based on criteria set forth in the Leadership in Energy and Environmental Design (LEED) or Green Globes rating systems from the Green Business Certification Inc. (GBCI) or the Green Building Initiative (GBI). The LEED and Green Globes rating systems are based on a set of standards for the environmentally sustainable design, construction, and operation of buildings.

The program began in 2007 as an incentive for business owners to improve the energy efficiency of new and existing buildings. In 2013, the State established new standards for how the program is administered and partial abatements are awarded.

To qualify for the partial tax abatement, applicants must earn a minimum number of points for energy conservation, which is determined by the Energy Star score or equivalent score, to meet the Silver Level or higher through the LEED rating system or two globes or higher through the Green Globes rating system.

The partial tax abatements range from 25% to 35% for a period of 3 to 10 years (depending on the certification level) on the portion of the taxes (other than taxes for public education) imposed pursuant to Chapter 361 of the Nevada Revised Statutes. The percentage and term of the partial tax abatements can be found in Nevada Administrative Code 701A.280. In January 2019, the Governor's Office of Energy amended NAC 701A.010-701A.290, inclusive, updating the program requiring more accountability of the applicants that receive the partial property tax abatement.

Projects Receiving Tax Abatements

In 2019, 16 buildings in Nevada received a Green Globes or LEED certification or equivalency, representing more than 11 million square feet of space.

There are currently 186 buildings participating in the GBTA program.

Photo (Left): Palacio Apartments, Las Vegas, NV. Green Globes certified. (Source: www.palacio-apartments.com).

Photo (Right): Findlay Chevrolet, Las Vegas, NV. LEED certified. (Source: www.findlaychevy.com).

Lower Income Solar Energy Program

Governor's Office of Energy Programs

The Lower Income Solar Energy Program (LISEP) is a joint effort of NV Energy and the Nevada Governor's Office of Energy that offers incentives for solar photovoltaic (PV) systems that serve lower-income populations. The program was originally created in 2013 as a pilot program through Assembly Bill 428 and was made permanent through Senate Bill 145 in 2017.

Each phase 4 (July 1, 2018 - June 30, 2019) and phase 5 (July 1, 2019 - June 30, 2020) have a total $1,200,000 program budget ($1 million from NV Energy and $200,000 from the Governor's Office of Energy). The incentive levels are set at $2.20/watt for Lower-Income Housing and $2.50/watt for other entities that serve the lower income sector.

As of December 2019, the program is fully subscribed.

To qualify for an incentive, the recipient had to be an NV Energy customer whose primary business serves a significant population of lower income customers. This included lower income housing, homeless shelters, food banks and other lower income services.

LISEP supports projects in major population centers and rural towns throughout Nevada, providing benefit to Nevadans in most need of assistance. More than 1,000 lower income households throughout the State are benefiting. LISEP recipients also include groups like the Boy's & Girl's Club of Southern Nevada (BGCSNV). Since installing solar at its Lied campus, the BGCSNV has realized significant utility bill savings that can be directly reinvested into the programs that help Southern Nevada youths reach their full potential. The approximate annual savings for the Boy's and Girl's Club is $25,000.00 and the funds from these savings support opportunities to give kids a place to feel safe. Reinvestment of these utility savings could cover year round services of before school (6.30 a.m. - 9.00 a.m.), after school (2.30 p.m. - 7.00 p.m.) and out of school hours (7:00 a.m. - 6:00 p.m.) for five (5) Club Kids or 700 individual BGCSNV memberships.

Photo (Above): GOE Director David Bobzien inspects the LISEP project at Plaza at 4th Street, in Reno, NV. (Source: GOE).

Governor's Office of Energy Programs

Partnerships & Projects Funded

Nevada Revised Statutes (NRS) 701 and 701A regulate and define the Governor's Office of Energy priorities and programs. NRS 701A.450 specifically creates the Renewable Energy Account, which is administered by the Director of the Governor's Office of Energy, and may be used to accomplish the initiatives and goals of the State related to renewable energy, energy efficiency and electric vehicles.

In addition, the Governor's Office of Energy receives funding from the U.S. Department of Energy's (DOE) State Energy Program (SEP) Formula Grant. The SEP Formula Grant is used to fund and promote clean energy programs and projects throughout Nevada.

Battery Storage Projects

In 2019, Viridity Energy received funds for a battery storage pilot project. The project is to analyze, acquire, install, and monitor a battery energy storage system at the Grant Sawyer State Office Building. This system will demonstrate the viability of using battery storage to reduce electricity demand charges for state-owned buildings.

Photo (Above): 210 kW Battery Project at the Grant Sawyer State office building in Las Vegas, NV. (Source: Viridity Energy)

Also in 2019, The Governor's Office of Energy granted Viridity Energy funds to conduct a study with RTC Washoe that will measure energy consumption and demand at electric vehicle (bus) charging station facilities. The final report will evaluate opportunities to reduce utility costs through the use of energy storage. RTC Washoe has deployed 21 electric buses in its fleet to date.

Photo (Left): About one-third of RTC-Washoe bus fleet is electric. (Source: RTC-Washoe)

Partnerships & Projects Funded

Governor's Office of Energy Programs

Opened Las Vegas Office

In June, The Governor's Office of Energy set up its first location in southern Nevada. Based at Grant Sawyer, the Las Vegas office allows Governor's Office of Energy to expand its outreach and programs, and provide greater opportunities for collaboration on clean energy and climate goals with local governments, regional governmental agencies and industries based in southern Nevada.

In 2019, Governor's Office of Energy was proud to collaborate and partner on a number of significant events.

Carbon Reduction Workshop with RTC of Southern Nevada

Governor's Office of Energy partnered with RTC of Southern Nevada to convene a carbon reduction workshop with local, regional and state governments and agencies. The workshop followed RTC Southern Nevada's August 22, 2019, Clean Energy and Transportation Summit.

The workshop brought together more than 80 attendees from 32 state agencies, local governments, regional governmental organizations and educational institutions for a discussion of collaboration opportunities around climate action. The panels included a discussion from state agencies (GOE, NDOT, DCNR and the Department of Administration) on state efforts for decarbonization, a panel of local government representatives discussing their success stories and a keynote on collective efforts from cities and regions to decarbonize.

This afternoon of collaboration provided a unique opportunity for government stakeholders from across the state to build connections for future climate action successes.

USCA Fall Convening and Stakeholder Reception

As one of its newest states, Nevada was honored to be selected to host the U.S. Climate Alliance's Fall Convening, in Incline Village, September 8-10.

This event was attended by USCA staff and the staff of 20 of the 25 member states. The discussion over the two day event included robust discussions on policies and programs for deep decarbonization along with providing a just transition for a clean energy workforce. Nevada was represented by Governor's Office of Energy, DCNR and its Division of Environmental Protection, the Nevada Department of Transportation, the Department of Administration and its Division of State Public Works, and the Public Utilities Commission of Nevada. These agencies were provided an opportunity to collaborate with colleagues from across the nation on programs, policies and strategies for deep decarbonization across their scopes of responsibility.

Photo (Above): USCA members tour Tesla's Gigfactory 1 in Sparks, NV. (Source: USCA)

Governor's Office of Energy Programs

Partnerships & Projects Funded

Community workshops with Southwest Energy Efficiency Project

Housing's Emerging Energy Technologies: August 1, 2019

The Governor's Office of Energy worked with the Southwest Energy Efficiency Project, NV Energy Southwest Gas and the City of Henderson to present a community workshop on new technologies that can save homeowners money while reducing carbon emissions in the built environment. The more than 50 attendees heard from experts about zero-energy and zero-energy ready homes, heat pump technologies and innovative utility programs, smart water heater thermostats, EV charging stations and battery energy storage systems for homes, and potential innovations in the 2021 IECC. The partnership between Governor's Office of Energy, SWEEP, the utilities and the City of Henderson showcased the collaboration Governor's Office of Energy looks forward to coordinating as we move forward with stakeholder outreach to create Nevada's Climate Strategy.

Zero Energy Ready Home Workshop: November 18, 2019

One key area of opportunity for collaboration in reducing Nevada's greenhouse gas emissions is in residential construction and moving toward zero-energy ready homes. The Governor's Office of Energy partnered with SWEEP to provide another community education event. Additional event partners included NV Energy, Southwest Gas, Southern Nevada Water Authority, the cities of Henderson, Las Vegas, Boulder City and Clark and Nye counties. More than 80 attendees heard from experts on UNLV's work developing zero energy building technologies, how to build a zero energy ready home, utility incentive programs to reduce energy use and the resulting greenhouse gas emissions, and water saving technologies to conserve one of Southern Nevada's most limited resources. Southern Nevada Water Authority then welcomed attendees to visit the unique DesertSol home at Springs Preserve. The DesertSol home, created and built for the 2013 U.S. Department of Energy Solar Decathalon by a student team from University of Nevada, Las Vegas exemplifies sustainable living and minimal energy use in residential construction to demonstrate to attendees the innovation that can advance a carbon free future for Nevada.

Photo (Above): GOE Deputy Director Jennifer Taylor sharing state goals for carbon reduction in the built environment at SWEEP's November Zero Energy Ready Home Workshop. (Source: SWEEP)

Partnerships & Projects Funded

Governor's Office of Energy Programs

Ride and Drive

In 2019, NV Energy hosted four Ride and Drive Events, two in Las Vegas and two in Reno, to allow its customers to test drive some of the latest models of electric vehicles from, among others, Tesla, Audi and Jaguar. The Governor's Office of Energy joined the Nevada Department of Transportation and the Regional Transportation Commissions from Washoe County and Southern Nevada to share information about the benefits of driving electric vehicles, decarbonizing transportation and Governor's Office of Energy's programs, like the Nevada Electric Highway, that help build out the charging infrastructure needed to support a growing EV market. The Ride and Drive events provided consumers the opportunity to experience EV's and learn about their benefits while interacting with the state and local agencies that shape policies and programs in transportation.

Photo (Above): NV Energy's Ride and Drive event in Las Vegas, NV. (Source: GOE)

Project ReCharge

The Governor's Office of Energy sponsored the Project ReCharge, STEM Energy education program during the 2018-2019 state fiscal year. The project provides professional development to teachers from multiple school districts in Nevada and is expected to expand across the state. The teachers are provided with curriculum and classroom resources along with ongoing support throughout the school year. The students that participate in the program perform energy audits in their respective schools and submit a proposal to the school board at the end of the year on how the school can become more energy efficient. In early 2019, Envirolution hosted their annual Year-End Event recognizing the energy detective students and teachers that graduated the Project ReCharge program for the 2018-2019 school year. The Governor's Office of Energy is honored to support this program that improves STEM education across the state increasing the opportunities for a robust workforce in the future.

Photo (Above): Project ReCharge Students attending the Annual Year-End Event (Source: Envirolution)

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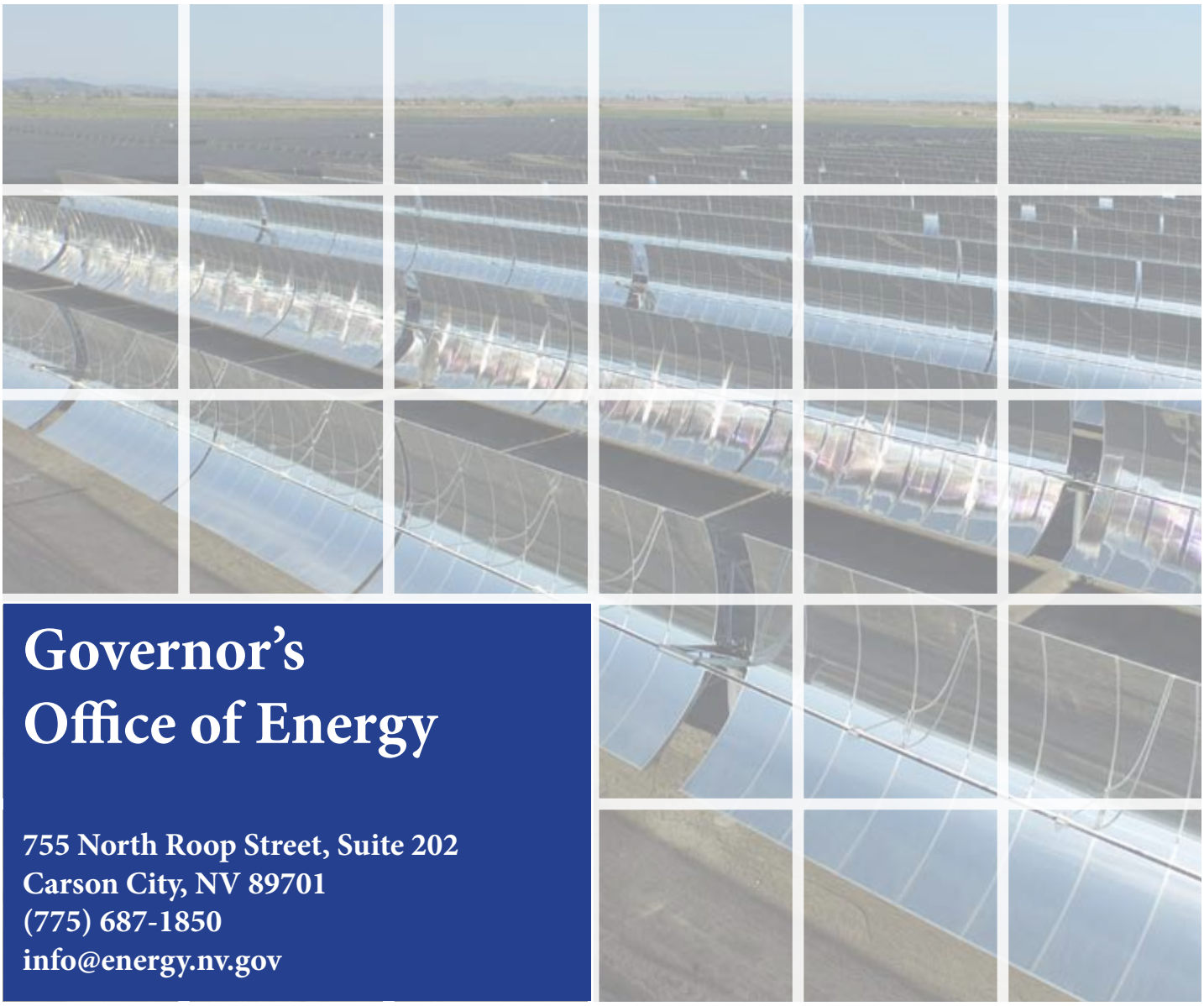

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