Nevada Electric Utility Energy Efficiency Programs: A Success Story

December 2020

History

- In 2005, Assembly Bill 3 was enacted amending Nevada's Renewable Portfolio Standard and requiring that by 2015, 20 percent of all electricity sold by the state's regulated utilities comes from renewable energy sources. The bill allowed up to 25 percent of the clean generation requirement to be met with energy savings credits from utility-sponsored energy efficiency programs.

- NV Energy, the parent company for Nevada Power Co. (NPC) in southern Nevada and Sierra Pacific Power Co. (SPPC) in northern Nevada, greatly expanded its energy efficiency and other demand-side management (DSM) programs during 2006-09 in response to this favorable legislation. By 2009, NV Energy achieved net energy savings of 439 GWh per year, about 1.5 percent of retail electric sales.

- However, a number of factors worked against energy efficiency in Nevada during 2010-17:
    - Nevada's economy withered during the great recession and electricity consumption fell as a result. The PUCN questioned the need for large investments in energy efficiency programs in this context, and cut NV Energy's DSM budget including eliminating the residential lighting program.
    - NV Energy accumulated excess energy efficiency credits from its successful DSM programs during 2006-2010, meaning the utility was less motivated to implement highly effective programs post-2010.
    - Hostility to DSM programs increased as a result of implementing a lost revenue recovery mechanism.

- In 2013, the Nevada legislature approved SB 252 which gradually phased out the energy efficiency credits that can be counted towards compliance with the Renewable Portfolio standard. Energy savings credits are limited to 10 percent of the standard during 2020-24 and then phased out starting in 2025.

- In 2017, the Nevada legislature adopted Assembly Bill 223 and Senate Bill 150 which led to renewed expansion of utility energy efficiency programs. The bills:
    - Direct the Public Utilities Commission of Nevada (PUCN) to set energy savings goals for NV Energy
    - Allow the PUCN to approve energy efficiency programs as long as they are part of an overall energy efficiency plan that is cost effective
    - Require that at least 5% of energy efficiency expenditures assist low-income households in saving energy
    - Direct utilities and the PUCN to account for non-energy benefits in energy efficiency benefit-cost analysis
    - Allow the PUCN to adopt a rate adjustment mechanism so that utilities are not harmed financially when they help their customers save energy.

- NV Energy's 2019-21 DSM plan increased DSM program funding and set higher energy savings targets compared to levels achieved in recent years (see chart below). For 2021, NV Energy is striving for energy savings equal to 1.2% of sales.

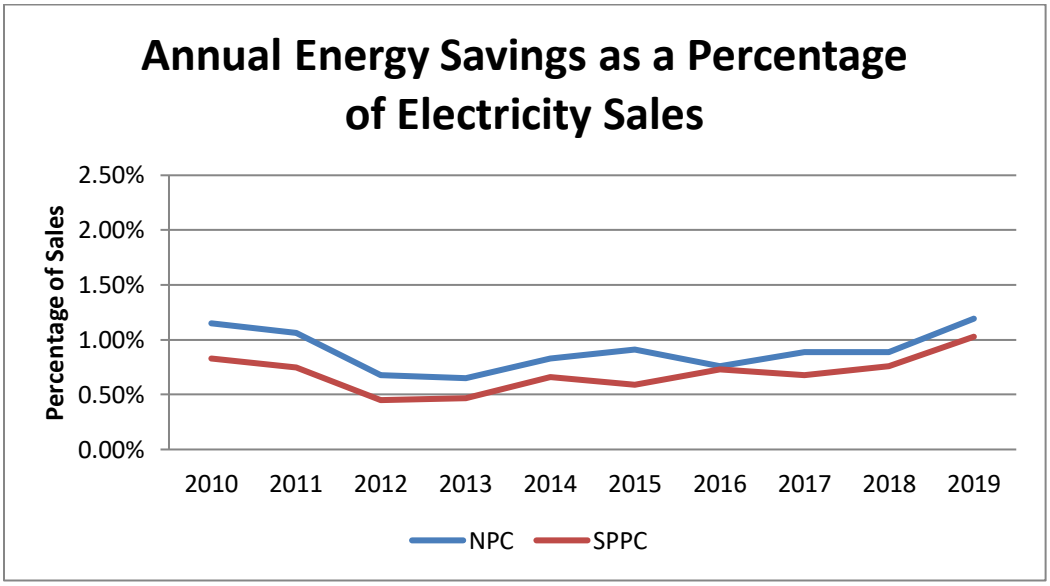
Impacts of Energy Efficiency Programs

- Over the past ten years (2010-19), NV Energy spent a total of $454 million on energy efficiency and demand response programs. The utility spent about 1.6% of its revenues on DSM programs in 2019.

- NV Energy's customers saved about 2.5 billion kWh per year in 2019 and cut their peak demand by 534 MW as a result of DSM programs implemented during 2010-19. The energy savings in 2019 were equal

to 8.5% of total electricity use by NV Energy's customers. The savings as of 2019 were equivalent to the electricity use of 225,000 typical households served by the utility.

- NV Energy's portfolio of energy efficiency programs has been cost effective every year. The benefit-cost ratio for NPC's efficiency programs implemented in 2019 was 2.6, and the ratio for SPPC's programs was 1.8. Households and businesses in the state are expected to realize $653 million in net benefits as a result of NV Energy's electric DSM programs implemented during the past decade.
- Saving electricity reduces the operation and pollutant emissions of fossil fuel-fired power plants. Power plants in Nevada cut their CO_2 emissions in 2019 by about 800,000 metric tons as a result of NV Energy's efficiency programs implemented over the past decade. This is equivalent to removing around 160,000 cars from the road.
- Power plants in Nevada cut their water consumption in 2019 by about 390 million gallons as a result of NV Energy's energy efficiency programs implemented over the past decade. This is equivalent to the annual water use of about 3,860 Las Vegas area households.



Impacts of NV Energy's DSM Programs by Year

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Expenditures (million $)	46	45	39	39	49	46	49	50	46	45	454
Electricity Savings (GWh/year)	304	278	182	175	238	246	225	247	249	327	2,471
Peak Reduction (MW)	56	41	46	62	75	249	261	273	224	226	534
CO_2 Emissions Reduction (thousand metric tons/year)**	171	156	107	108	79	81	71	85	68	106	1,032
Net Economic Benefits (million $)	49	31	17	16	47	65	78	115	99	136	653

* Does not equal sum of individual year values in order to avoid double counting of demand response potentials.

** CO_2 emissions reduction values reported by NV Energy.

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