



CHP
TECHNICAL ASSISTANCE
PARTNERSHIPS

CHP in Nevada:

Retiring Coal Plants Under SB 123

Policy Description



Las Vegas, Nevada

SOURCE: <https://unsplash.com/photos/zPkqmqBZnPA>

In 2013, the Nevada State Legislature passed Senate Bill (SB) 123, which requires the state's largest utility, Nevada Energy, to retire 800 MW of coal-fired power plants by the end of 2019. To make up for this loss in generation capacity, the state requires Nevada Energy to develop or procure an additional 900 MW of power, including 350 MW of capacity from renewable energy resources. Technologies such as combined heat and power (CHP) could help fill the gap and assist states like Nevada looking to meet their future energy procurement goals as coal plants retire.

CHP: The Premier Distributed Energy Resource

Currently, natural gas accounts for nearly two-thirds of Nevada's electricity generation. While Nevada's transition away from coal requires the adoption of more renewable energy projects, current price signals and established energy infrastructure mean that a large portion of Nevada's retiring coal generation will likely be met with new natural gas projects. CHP systems can use natural gas, renewable biofuels, or waste gas to produce thermal energy (steam and/or hot water) and electric power. Thus, CHP technology can facilitate new distributed energy projects intended to strengthen power grids and provide clean, constant, on-demand power to resorts, hotels, casinos, and communities that power Nevada's economy.

Current Uses for CHP in Nevada

- Provides on-site heat and electricity generation for large resorts and hotel complexes.
- Works in conjunction with natural gas compressor stations to capture and use waste heat.
- Powers industrial processes, providing on-site electricity and thermal energy.



Aria Resort and Casino

SOURCE: Popular Mechanics

How CHP Can Help Meet the Gap Caused by Coal Retirements

Deployment of efficient natural gas generation, such as CHP, can help Nevada meet the gap in energy production caused by coal retirements while also facilitating the deployment of new renewable resources. For example, the nation of Denmark has aggressively pursued the adoption of biofuel-based CHP installations as it moves away from coal.*

- CHP is an established and economically proven technology understood by both utilities and the industry.
- CHP is a baseload technology that works well with other distributed generation technologies such as photovoltaic (PV) solar, energy storage, and wind.
- CHP systems can incorporate renewable energy sources by utilizing waste heat and locally produced biogas and biofuels.
- CHP systems are ideal for hotels, universities, hospitals, and district energy applications, which typically have consistent load patterns and heat requirements.
- CHP systems can be used to reduce emissions from natural gas compressor stations, as in the case of Nevada Energy's Goodsprings Energy Recovery Station.



SOURCE:

https://www.nvenergy.com/publish/content/dam/nvenergy/brochures_arch/about-nvenergy/our-company/power-supply/Goodsprings_Fact_Sheet.pdf

*CODE2, D5.1 – Final Cogeneration Roadmap Member State: Denmark, October 2014; *Renewable Energy World*, “Phasing out coal in Denmark via bioenergy-based CHP,” March 26, 2019.

Barriers to CHP Integration

As Nevada explores opportunities to reduce reliance on coal and integrate more efficient and renewable energy onto the grid, a number of well-known barriers to deploying CHP may require regulatory or legislative intervention to remedy:

- State policies/regulations that do not promote the development of biofuel-based infrastructure, including Nevada's renewable portfolio standard (RPS), which does not consider biofuels to be a renewable resource
- Lack of beneficial tariffs that make sense to both consumers and the utilities, which may include high standby charges, surcharges, or demand charges unfavorable to CHP technologies and other distributed energy technologies
- Extended or uncertain interconnection processes that make it difficult for customers and utilities to integrate new installations onto the electric grid

Next Steps

In May 2019, Nevada Governor Steve Sisolak signed SB 358, which requires energy sold in Nevada to come from at least 50% renewable energy sources by 2030 and 100% from renewables by 2050. Nevada's existing RPS does not include biofuels as a qualifying renewable energy resource. Thus, efforts are under way to work with the Nevada legislature on making changes to Nevada's RPS to ensure that biofuel-powered CHP can play a role in Nevada's long-term energy future.

For More Information

U.S. DOE WESTERN CHP TECHNICAL
ASSISTANCE PARTNERSHIP (CHP TAP)
www.wchptap.org

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