

UNDERSTANDING BOULDER CITY'S ELECTRIC SOURCES

Boulder City receives most of its power from renewable hydroelectric sources (Hoover Dam and Glen Canyon Dam on Lake Powell). The average rate of this power is estimated at \$30.47 per megawatt hour (MWh) for FY 2023. Boulder City power use ranges from approximately 22 megawatts (MW) of power in cooler months, to about 50 MW on a peak summer day.

Boulder City leases parcels of City land in the Eldorado Valley for solar development. Since January 2022 (when the Townsite Solar plant started generating power) the City has committed to purchase five megawatts of energy each month at \$39.95 per megawatt hour. The site holds a nameplate capacity of 232 Megawatts of AC power and 90 MWac energy storage, all of which goes to the Mead Substation for transmission and distribution.

The City is also a member of the Silver State Energy Association. Silver State schedules power purchases and delivery for Boulder City as well as for other entities in Southern Nevada. The Association monitors demands to ensure that Boulder City always has power when needed, including when a spot power purchase is necessary. Some contracts cover the eight-month period, others shorter periods to cover the warmer months when power demands are higher. These sources qualify as *firm power*.

Why Boulder City Isn't Fully Reliant on Solar... yet

Solar power is still more expensive than hydroelectric power. Energy experts caution that the drought could impact costs in coming years. Federal regulations for small municipal utilities (such as Boulder City) require that the utility must be able to provide all power that is needed by all customers at all times, regardless of weather conditions or environmental factors.

Traditional solar power is still considered an *intermittent power source*. Production only occurs when sunshine is optimal. No power is produced at night, and cloudy skies, rain, wind or snow can impact production. Solar energy producers are working with energy storage research companies to develop battery storage for solar power. More solar plants are utilizing battery storage as part of their portfolio, but it is still in early stages. Traditional solar power can only be used when a *firm power source* is also available.

Federal regulations would require the City hold a contract for a *firm power* source to provide power immediately when solar power is no longer being generated. This type of power supply is called *spinning reserve*. It would require the City to pay a power generation plant to produce power continuously and deliver it immediately when the intermittent power source (solar) stops generating power, like at night or on cloudy days. The plant must keep power available at all times, whether the City uses it or not, and the City cannot sell the power to another source. Due to the regulations, the City would be paying for power twice – once for the solar power and once for the *spinning reserve* power. *Spinning reserves* often cost more than traditional power contracts.

How is Boulder City's Electric Utility Different from Public Utilities

Publicly traded utilities own land and assets that generate revenues, which can offset charges to ratepayers. They build substations and other power delivery facilities to minimize delivery costs and sell excess generated power to other utilities. Publicly traded utilities often use land they don't own for installation of power poles, water pipes, gas pipes, etc. Municipalities can charge a franchise fee to these companies for use of the rights-of-way.

The Boulder City Electric Utility does not own any lands at all and uses plots of City-owned land free of charge for substations. No franchise fee is charged for use of city-owned rights-of-way to deliver power to its ratepayers. This is one reason the City's electricity rates are among the lowest in Nevada.