



# BATTERY TECHNOLOGY IN LAS VEGAS

**MARKET OVERVIEW**



# POWER HUB OF THE FUTURE

## WHAT HAPPENS HERE WILL CHARGE THE WORLD

Discover a region that's charging towards a sustainable and prosperous future. Nevada is home to the only operating lithium mine in North America and the only state in the U.S. that can support every phase of the manufacturing supply chain, from mining to recycling. With its vibrant economy, world-class infrastructure, and commitment to innovation, Las Vegas is the perfect destination for battery manufacturing companies seeking to make their mark in the green energy revolution with the state's lithium loop.



### STRATEGIC LOCATION

Ideal proximity to West Coast ports that puts 64.3 million customers within a one-day delivery window.



### SUSTAINABILITY

Las Vegas is a world leader in water conservation and sustainability planning and technology. With the most solar installers per capita, the region has ample commercial and residential opportunities for energy storage applications.



### SKILLED WORKFORCE

Robust higher education programs, strong population growth, and an upskillable talent pool make the Las Vegas Valley a prime place for finding your future workforce among our 1.1 million workers. Nevada employs more than 20,000 dedicated employees within the Lithium Loop economy.



### CONNECTED & STABLE INFRASTRUCTURE

Las Vegas has everything you need to stay connected - from an international airport to a major interstate crossing the western United States. Beyond the connections of its transportation networks, the community has key infrastructure, ranging from a scalable fiber optic network to a stable power grid. The Nevada Electric Highway has been connecting EV charging infrastructure across the state since 2015. Las Vegas also has the lowest relative humidity (less than 25 percent annual average) of any city in North America, providing significant potential for operating cost savings for companies that require dry rooms.



### BUSINESS FRIENDLY ENVIRONMENT

Nevada has no corporate or personal income taxes, making it an attractive destination for businesses. The state also offers incentives to relocate or expand within Las Vegas to help reduce operating costs and increase profitability.

**LEARN MORE &  
CONNECT WITH US**

# ASSETS IN LAS VEGAS

## COLLABORATE: NEVADA BATTERY COALITION

A trade association providing key support to the lithium battery industry in three primary areas: public awareness, workforce and economic development, and industry promotion.

## EDUCATE: UNLV AND NSU

University of Nevada, Las Vegas offers a wide variety of interdisciplinary research laboratories and engineering centers for faculty and staff who provide research and development support to local, regional, and national companies. These assets include Nevada Extreme Conditions Laboratory, Center for Energy Materials Interaction Technology Initiative of Nevada (EMITION), Center for Mechanical & Environmental Systems Technology, High Pressure Science & Engineering Center, and Center for Materials & Structures.

Nevada State University offers multiple degrees in technical and engineering support occupations. The university also offers degrees in many business-related fields that provide support for management, marketing, sales, data science, and other administrative and support services essential to growing a battery manufacturing company in Las Vegas.

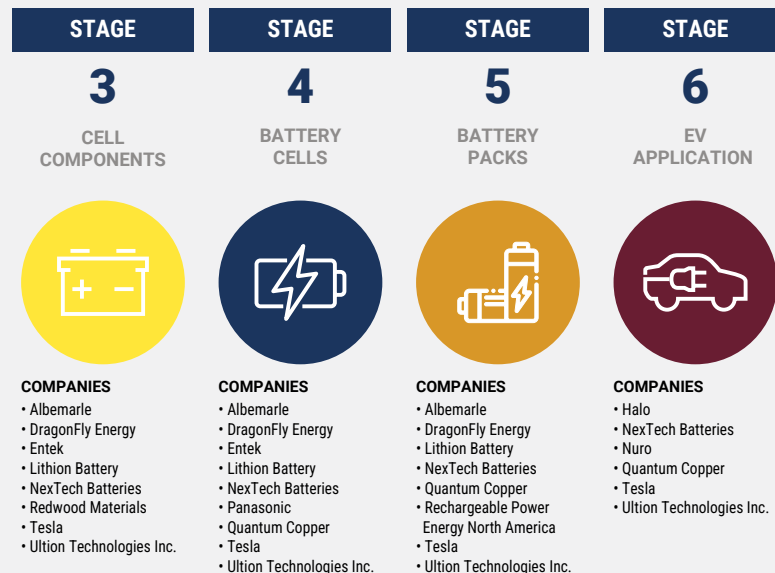
## TRAIN: CSN CENTER OF EXCELLENCE

A joint project between the City of Henderson and College of Southern Nevada (CSN), the Center of Excellence is a state-of-the-art advanced manufacturing training center located in West Henderson.

## CONNECT: MANUFACTURE NEVADA

Manufacture Nevada connects manufacturers to a comprehensive network of resources, experts, and solutions to help their businesses succeed and grow.

## SOUTHERN NEVADA LITHIUM LOOP



## BY THE NUMBERS

**1.1 MILLION**  
TOTAL PRIVATE EMPLOYMENT  
LAS VEGAS AREA

## INDUSTRY-SPECIFIC BUSINESS PERFORMANCE

 **23,480**  
EMPLOYMENT

 **\$52,165**  
AVG. ANNUAL WAGE

 **\$1.2B**  
TOTAL PAYROLL

\*As of July 2023, the companies listed are to the best of our knowledge.  
To be listed, please contact: Carli Smith: c.smith@goed.nv.gov.

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# STRATEGIC LOCATION

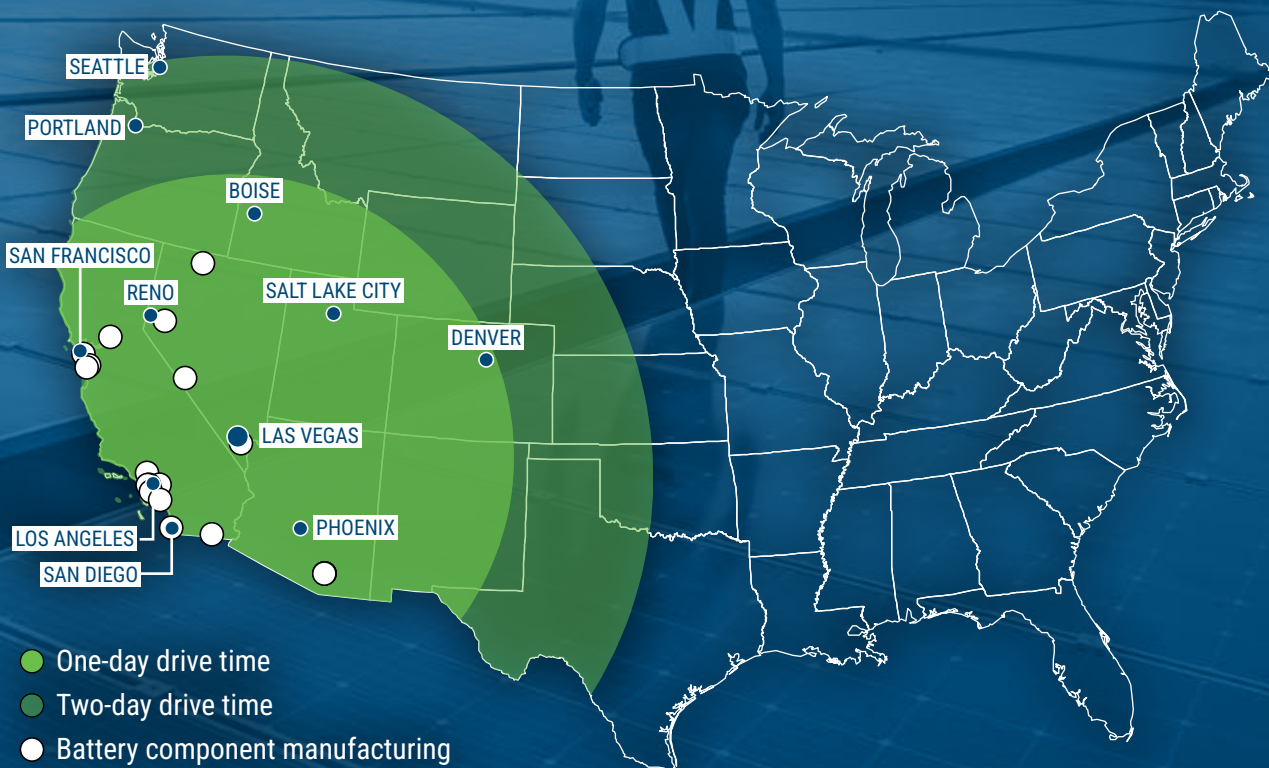
## LITHIUM SUPPLY CHAIN OPPORTUNITIES IN NEVADA

As the only state with a full Lithium Loop that can take lithium carbonate from the ground to the end user and back into its components, Nevada offers unique value and supply stability to local manufacturers. With the largest supply of lithium in the United States and a constantly expanding network of solar farms for energy, Nevada has key environmental ingredients for production.

Situated in a business-friendly state along the I-15 corridor, manufacturers in Las Vegas benefit from a population of 64.3 million U.S. residents within a one-day delivery window and fast access to the largest port in America. Within a short drive of the Port of Los Angeles, manufacturers can easily ship products to and receive supplies from anywhere in the world. However, given the burgeoning local growth in all areas of the Lithium Economy, many companies are finding supplies and buyers nearby.

### SUPPLY CHAIN

#### TRUCKING REACH



# LOGISTICS INFORMATION

SOUTHERN NEVADA



DISTANCE



TIME



COST<sup>1</sup>

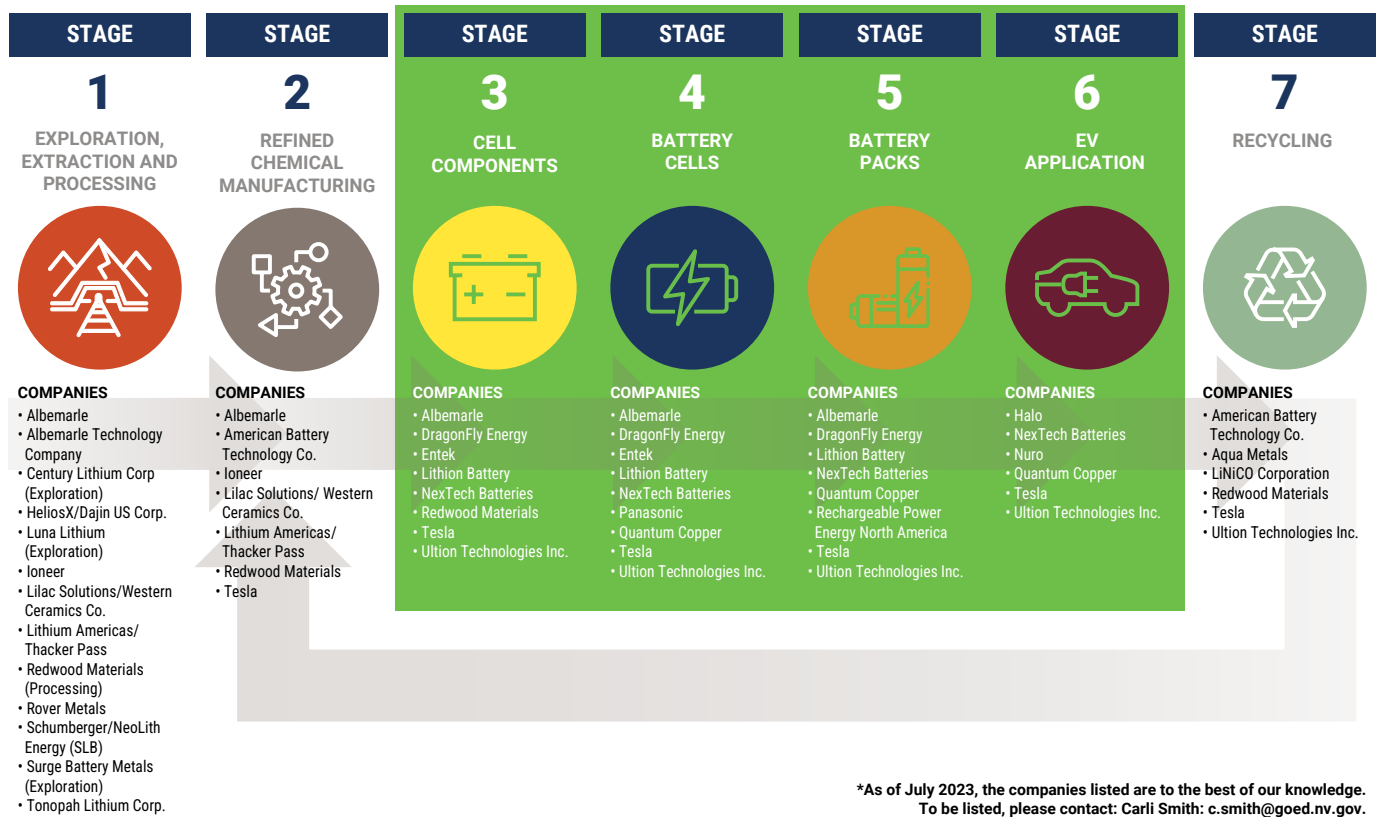
		DISTANCE	TIME	COST <sup>1</sup>
1	Los Angeles	265	4H 8M	\$735
2	Phoenix	300	5H 33M	\$959
3	San Diego	327	5H 4M	\$934
4	Salt Lake City	424	6H 0M	\$1,610
5	Reno	452	6H 57M	\$1,398
6	San Francisco	562	8H 55M	\$1,442
7	Boise	634	9H 44M	\$1,912
8	Denver	752	11H 27M	\$2,549
9	Portland	982	15H 50M	\$3,139
10	Seattle	1,129	17H 29M	\$3,217

Note: <sup>1</sup>Cost estimates are for dry van trucks at maximum weight load with no special requirements.

**1** 64.3 M  
POPULATION WITHIN  
A ONE-DAY TRUCKING RADIUS

**2** 79.4 M  
POPULATION WITHIN  
A TWO-DAY TRUCKING RADIUS

## LITHIUM ECONOMY IN NEVADA: THE LARGEST IN NORTH AMERICA



### OPERATORS IN SOUTHERN NEVADA

<p>Cell Components, Battery Cells, and Battery Packs</p>	<p>Cell Components, Battery Cells, and Battery Packs</p>	<p>Cell Components</p>	<p>Battery Cells, Battery Packs, and EV Application</p>
<p>Battery Packs</p>	<p>EV Application</p>	<p>EV Application</p>	<p>EV Application</p>



# LITHIUM ECONOMY IN NEVADA



**STAGE 1**



EXPLORATION, EXTRACTION AND PROCESSING

**LITHIUM AMERICAS CORP.**

In Humboldt County, Nevada, Lithium Americas is investing \$2.2 billion in building a mine to extract lithium carbonate at a projected rate of 80,000 tonnes per annum. Among other shareholders, General Motors has invested heavily in the construction of the Thacker Pass mine the company is building in Nevada, which is expected to produce lithium carbonate for 40 years after the mine becomes operational in 2026.

**STAGE 2**



REFINED CHEMICAL MANUFACTURING

**IONEER**

Ioneer is primarily a mining company and supplier of raw materials. The company's Nevada operations at Rhyolite Ridge in Esmeralda County are uniquely positioned to supply boron and lithium to both the Las Vegas and Reno areas, with projected lithium carbonate production of 20,000 tonnes per annum. In addition to its mineral extraction activities, the company plans to build a large lithium carbonate processing facility nearby, allowing for initial material processing on-site at Rhyolite Ridge.

**STAGE 3**



CELL COMPONENTS

**REDWOOD**

Redwood Materials is focused on all aspects of the lithium life cycle, from energy production to mineral recycling. Headquartered in Carson City since its inception in 2017, the company has expanded to include other domestic locations and made major recycling agreements with vehicle manufacturers Volkswagen and Audi.

**STAGE 4**



BATTERY CELLS

**PANASONIC**

Electronics and component manufacturer Panasonic has made agreements with multiple companies for supply and production in Nevada. Most notably, the corporation entered into a multi-billion-dollar production deal with Tesla to construct Gigafactory Nevada. It completed another multi-billion-dollar sourcing deal with Redwood materials for cathode material and copper foil.

**STAGE 5**



BATTERY PACKS

**ALTAIRNANO**

Founded in 1973, the Altairnano headquarters in Reno provides innovative technology in the production of lithium titanate oxide materials. With environmentally mindful practices such as operating efficiency and waste reduction, the company creates a wide array of energy storage systems and components for clean, efficient power and energy management. As the first company to switch from using graphite to using lithium titanate in lithium-ion batteries, Altairnano's long history of innovation and continued growth make the company a key asset to the Lithium Loop Economy in Nevada.

**STAGE 6**



EV APPLICATION

**TESLA**

Following construction of the Gigafactory Nevada facility, Tesla focused existing plant capacity on battery manufacturing. In the next few years, the plant will undergo a \$3.6 billion expansion to accommodate additional battery manufacturing capacity and semi-truck manufacturing.

**STAGE 7**



RECYCLING

**AQUA METALS**

Using patented technology, Aqua Metals, Inc. operates in the lithium recycling space. Based in Reno, the company's low-emission and closed-loop recycling process is focused on minimizing waste in the metals recycling process using electroplating and providing high-purity source materials from old goods.

## WHO'S HERE

### LAS VEGAS VALLEY



#### LITHION BATTERY

Lithion Battery, a global company with offices across three continents, is on track to bring hundreds of jobs to its battery manufacturing plant in Henderson. With a focus on batteries for consumer goods outside of the automobile industry, Lithion produces batteries for both commercial and residential clients. In addition to its current facility, Lithion plans to have a second factory in Henderson that will be operational by the end of 2023, opening a first-of-its-kind domestic facility to manufacture cylindrical cell batteries.

#### ULTION TECHNOLOGIES

Ultion Technologies, a Nevada-grown lithium ferrophosphate cell and component development company, is focused on innovation and collaboration in the lithium-ion cell manufacturing space. Using proprietary technology, the company aims to develop new materials and processes that improve all aspects of battery performance.

#### MOTIONAL

Motional, an international autonomous vehicle design company, has been testing and providing autonomous rides in Las Vegas since 2018. After recently tripling the size of their testing facility, Motional Las Vegas has continued to expand their partnerships and the number of their publicly available robotaxis in the area.

#### QUANTUM COPPER

Quantum Copper, founded by UNLV chemistry professor Pradip Bhowmik and entrepreneur Rahul Harkawat in 2021, is focused on the creation of non-toxic fire-resistant materials, casings, and components. The company is focused on further developing its widely applicable fire-retardant polymer for use in safety applications from electric vehicles to wearable devices.

#### HALO

After moving to Las Vegas from San Francisco, Halo began actively testing on the Las Vegas streets in February of 2021 and has since moved on to launching full driverless operations. Halo offers the world's first driverless delivery and pick up system for rental cars, specifically electric vehicle rentals, and operates throughout the entire Las Vegas Area.

#### ENTEK

In the pursuit of expanding to meet market demand, Entek opened a new facility in 2022 in Henderson, NV. The 98,000 square foot industrial property is used for parts production, fabrication, assembly, and engineering. With 10 other facilities around the world, Entek targeted Las Vegas due to the area's strong labor market and the availability of skilled labor to complement their other operations.

#### NURO

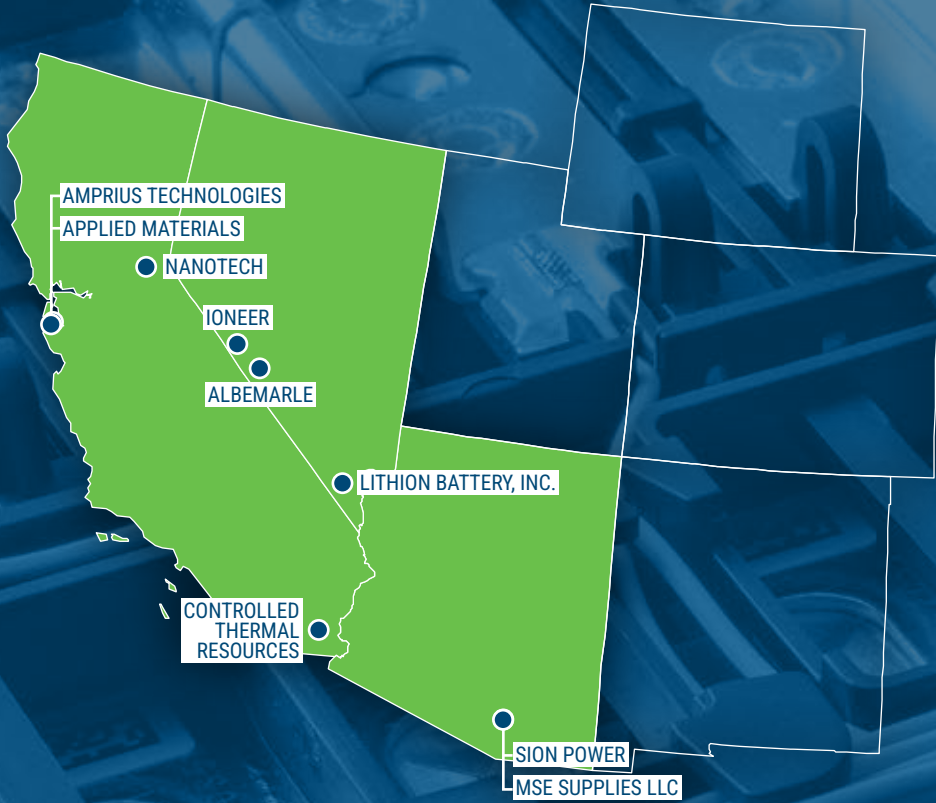
As the first autonomous vehicle company to receive a National Highway Traffic Safety Administration exemption from certain vehicle regulations, it's only fitting Nuro has found a home for vehicle testing in the first state to legalize autonomous vehicles. With a 74-acre facility operating since 2022, the company is now focusing on the construction of a manufacturing facility nearby. With close proximity to other facilities in California, Arizona, and Texas, the Las Vegas operations will facilitate further growth of this \$8.6 billion startup.

#### RECHARGEABLE POWER ENERGY

Headquartered in Las Vegas, Rechargeable Power Energy is an energy and power solutions provider focused on tailored solutions and high-quality products. With systems across a wide array of sizes, use cases, and portability, the company offers a wide range of batteries to suit different capacity needs from residential to industrial customers.



# REGIONAL SUPPLY CHAIN



## RAIL ACCESS



Source: U.S. Census Bureau



## AIR ACCESS

**269.9M**

**POUNDS OF CARGO  
MOVED ANNUALLY**

**22**

**CARGO CARRIERS ACTIVELY  
OPERATING AT HARRY REID  
INTERNATIONAL AIRPORT**

**200,930**

**SQ.FT. FREIGHT AND  
DISTRIBUTION FACILITY**

## CARGO CAPACITY

### Top Cargo Carriers:

- **FedEx** – 103.9M pounds annual cargo
- **UPS** – 54.0M pounds annual cargo
- **Atlas Air** – 48.8M pound annual cargo
- **Southwest** – 26.5M pound annual cargo
- **Hawaiian** – 7.4M pounds annual cargo

### Additional Cargo Carriers:

- Delta
- Korean Airlines
- British Airways
- United
- Virgin Atlantic
- KLM
- American
- Air Cargo Carriers
- Alaska
- West Air
- Eurowings
- Condor
- Air Canada
- Sun Country
- Air France
- JetBlue
- COPA

## PASSENGER CAPACITY

- **56.9M Air Passengers Annually**
  - 53.7M domestic passengers annually
  - 3.2M international passengers annually
- **32 Passenger Airlines Regularly Operating**
- **169 Direct Flight Routes**
- **30-Minute Drive Time to Anywhere in the Las Vegas Area**

## FOREIGN TRADE ZONE 89

For any battery manufacturer involved in international trade, Foreign Trade Zone 89 provides a competitive edge. The FTZ designation allows businesses to bring foreign components and raw materials for manufacturing or distribution into the United States without formal customs entry or payment of customs duties and government excise taxes until products leave the zone. As the grantee, LVGEA assists companies through the application process.

To learn how the FTZ designation could benefit your business, connect with a member of the [LVGEA Business Development team](#).

### FOREIGN TRADE ZONE BENEFITS

Almost any business that imports and/or exports can leverage the following benefits:

- Eliminate duties when products are transferred to another FTZ or reexported out of the U.S.
- Reduce duties on custom entries and merchandise processing fees through manufacturing and manipulation
- Defer duties until products enter the U.S. for commerce
- Eliminate customs clearance at the port of entry
- Streamline container fees and expedite the approval process

“

Having the FTZ designation is hugely advantageous for us. We save money by not having to pay tariffs on imported equipment, which makes our business more profitable, and allows us to expand our manufacturing capabilities and hire more people.

Tyler Armstrong  
*President & CEO of Lithion Battery*

### COMPANY TESTIMONIAL: LITHION BATTERY



Lithion Battery is in the business of the “electrification of everything else.” Located in Henderson, the company operates a manufacturing facility that produces batteries, battery packs, and energy storage systems for residential, commercial, and industrial clients. The company is also building a second factory to produce cylindrical cells that will be used in its battery packs, a first-of-its-kind facility outside China.

Scan QR code to learn more about why Lithion Battery choose the Las Vegas Valley to do business in.

# SKILLED WORKFORCE

## THE TALENT PIPELINE IN SOUTHERN NEVADA

- Las Vegas has gained over 315,000 residents and 283,000 employees in the last decade.
- With a cost-of-living index of 101.0, Las Vegas has one of the lowest costs of living among the 30 largest metropolitan areas in the United States.
- Employment in occupations related to battery manufacturing is projected to grow by 13.7 percent in the Las Vegas over the next 10 years.
- Las Vegas is home to College of Southern Nevada, Nevada State University, and University of Nevada, Las Vegas, one of the most affordable and diverse universities in the nation.
- University of Nevada, Las Vegas offers over 27 certificate programs to provide upskilling opportunities for working professionals.
- In the last year, the Nevada State Legislature passed \$12 billion in investments to grow educational programs in the state.

### THE LITHIUM ECONOMY TALENT PIPELINE



#### ACTIVE LABOR FORCE



#### POST-SECONDARY PROGRAMS



SCHOOL	COLLEGE/ SCHOOL	DEPARTMENT OR PROGRAM	DEGREE SUBJECT	DEGREE TYPE
University of Nevada – Las Vegas	Howard R. Hughes College of Engineering	Department of Chemistry and Biochemistry	Chemistry	BA, BS, MS, PhD
University of Nevada – Las Vegas	Howard R. Hughes College of Engineering	Department of Electrical and Computer Engineering	Electrical Engineering	BS, MS, PhD
University of Nevada – Las Vegas	Howard R. Hughes College of Engineering	Department of Mechanical Engineering	Mechanical Engineering	BS, MS, PhD
College of Southern Nevada	School of Advanced and Applied Technologies	Department of Advanced Manufacturing	Advanced Manufacturing Program: Automation	AAS, SC
College of Southern Nevada	School of Advanced and Applied Technologies	Department of Advanced Manufacturing	Advanced Manufacturing Program: Machining	AAS, CA
College of Southern Nevada	School of Advanced and Applied Technologies	Department of Advanced Manufacturing	Advanced Manufacturing	CA
College of Southern Nevada	School of Advanced and Applied Technologies	Department of Applied Technologies	Automotive Technology Program: Alternative Fuels and Hybrid Technician	AAS
College of Southern Nevada	School of Advanced and Applied Technologies	Engineering Technology Program	Manufacturing-Industrial and Operations	AAS
College of Southern Nevada	School of Advanced and Applied Technologies	Engineering Technology Program	Electronics	CA, SC
College of Southern Nevada	School of Advanced and Applied Technologies	Engineering Technology Program	Management	CA
Nevada State University	School of Liberal Arts, Sciences, and Business	Engineering Technology	Engineering Technology - Electronics	BAS



## SECONDARY PROGRAMS



**11**  
SECONDARY SCHOOLS WITH BATTERY/  
LITHIUM RELATED PROGRAMS



**1,826**  
SECONDARY STUDENTS ENROLLED IN  
BATTERY/LITHIUM RELATED PROGRAMS

SUBJECT AREA	SCHOOLS	ENROLLMENT
Mechanical Technology	East Career & Technical Academy, Northwest Career & Technical Academy, Silverado HS	540
Mechanical Engineering	Palo Verde HS, Southwest Career & Technical Academy	228
Manufacturing Technology	Centennial HS, Cimarron-Memorial HS, Desert Rose HS, Sunrise Mountain HS	370
Automation Technology	Cimarron-Memorial HS, Legacy HS, Sierra Vista HS, Southeast Career & Technical Academy, Sunrise Mountain HS	668

# LABOR FORCE AVAILABILITY

## BATTERY/LITHIUM RELATED LABOR FORCE

### LAS VEGAS

### PHOENIX

### RIVERSIDE

Chemical Technicians <sup>1</sup>	2.1	1.2	2.6
Chemists <sup>1</sup>	0.6	1.9	2.1
Electrical Engineers <sup>1</sup>	6.1	14.3	6.6
Electrical & Electronic Engineering Technologists and Technicians <sup>1</sup>	9.1	7.4	4.1
Electronics Engineers, Except Computer <sup>1</sup>	4.1	19.9	4.0
Electro-Mechanical and Mechatronics Technologists & Technicians <sup>1</sup>	1.3	0.6	0.4
Mechanical Engineers <sup>1</sup>	4.5	16.5	8.6
Mechanical Engineering Technologists and Technicians <sup>1</sup>	-	1.7	0.7
Engineers, All Other <sup>1</sup>	5.0	6.6	6.2
Engineering Technologists & Technicians, Except Drafters, All Other <sup>1</sup>	1.3	2.8	3.9
<b>Goods Producing Percent of Total Private Employment</b>	<b>11.1%</b>	<b>15.4%</b>	<b>16.4%</b>
<b>Manufacturing Percent of Total Private Employment</b>	<b>3.0%</b>	<b>7.1%</b>	<b>7.2%</b>
<b>Manufacturing Employee to Private Establishment Ratio</b>	<b>23</b>	<b>38</b>	<b>26</b>

Note: <sup>1</sup>Employment shown as number per 10,000 jobs. Source: U.S. Bureau of Labor Statistics

## LABOR FORCE DEMOGRAPHICS

### LAS VEGAS

### PHOENIX

### RIVERSIDE

Household Growth 2010-2020	18.2%	16.5%	10.3%
Household Growth 2020-2023	3.4%	4.2%	2.4%
Household Growth 2023-2028 (Projected)	4.5%	4.9%	3.5%
Family Household Growth 2020-2023	22.8%	22.2%	13.3%
Family Household Growth 2023-2028 (Projected)	4.5%	5.0%	3.5%
Population Growth 2010-2020	16.1%	15.6%	8.9%
Population Growth 2020-2023	3.1%	4.0%	2.2%
Population Growth 2023-2028 (Projected)	4.1%	4.7%	3.2%
<b>Percent of the Population that is:</b>			
White Alone	42.5%	58.1%	36.2%
Black/African American Alone	13.7%	6.2%	7.3%
American Indian/Alaskan Native Alone	1.2%	2.7%	2.0%
Asian Alone	10.4%	4.6%	7.9%
Native Hawaiian/Pacific Islander Alone	0.9%	0.2%	0.4%
Some Other Race Alone	16.3%	14.0%	28.9%
Two or More Races	15.0%	14.3%	17.3%
Hispanic/Latino	32.4%	31.9%	54.4%
Not Hispanic/Latino	67.6%	68.1%	45.6%
<b>Speaks a Language Other than English at Home</b>	<b>34.4%</b>	<b>26.4%</b>	<b>42.0%</b>

Source: Environics



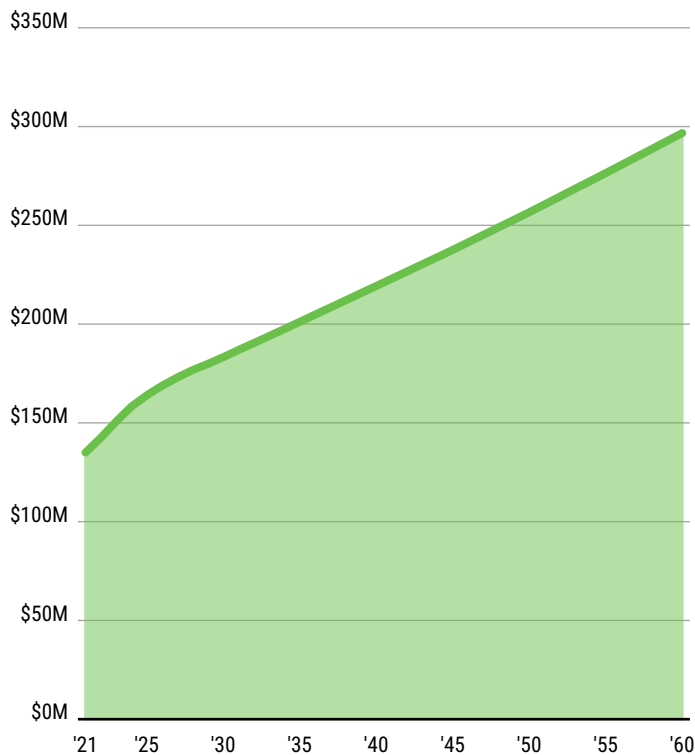
## LABOR RELATIONS

	LAS VEGAS	PHOENIX	RIVERSIDE
<b>Right to Work State<sup>1</sup></b>	Yes	Yes	No
<b>Median Age<sup>2</sup></b>	38.1	37.6	35.4
<b>Percent of Population Under 65<sup>2</sup></b>	85%	84%	86%
<b>Cost of Living Index<sup>3</sup></b>	101.0	98.4	151.2
<b>Per Capita Personal Income<sup>4</sup></b>	\$58,276	\$58,308	\$50,384
<b>Per Capita GDP<sup>4</sup></b>	\$48,545	\$52,911	\$36,836
<b>Prime-Age Portion of Population<sup>2</sup></b>	42%	40%	40%
<b>Median Household Income<sup>2</sup></b>	\$63,677	\$75,731	\$77,018
<b>Average Travel Time to Work (minutes)<sup>2</sup></b>	28	30	36

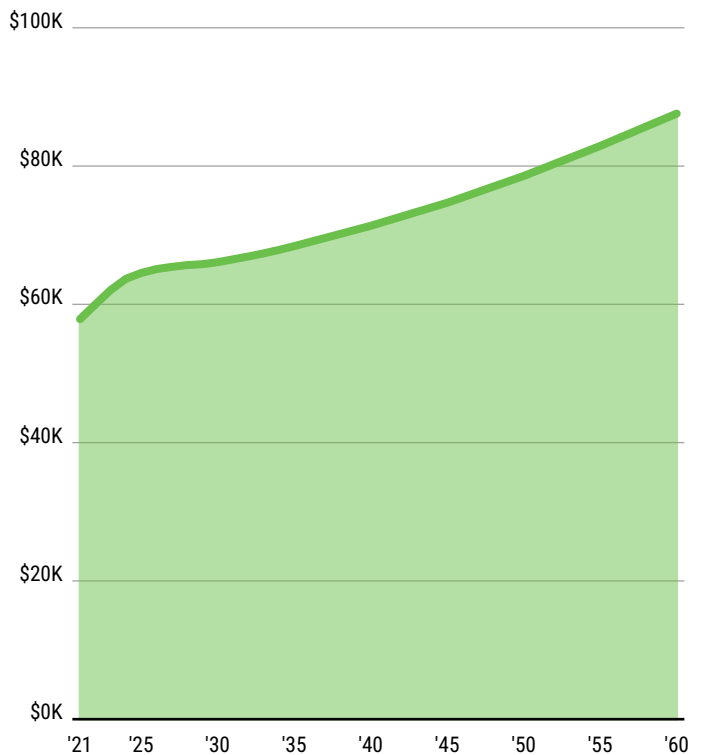
Source: <sup>1</sup>National Right to Work Legal Defense Foundation; <sup>2</sup>U.S. Census Bureau; <sup>3</sup>The Council for Community and Economic Research; <sup>4</sup>U.S. Bureau of Economic Analysis

## ECONOMIC GROWTH FORECAST

### PROJECTED GDP GROWTH IN LAS VEGAS AREA



### PROJECTED GDP PER CAPITA GROWTH IN LAS VEGAS AREA

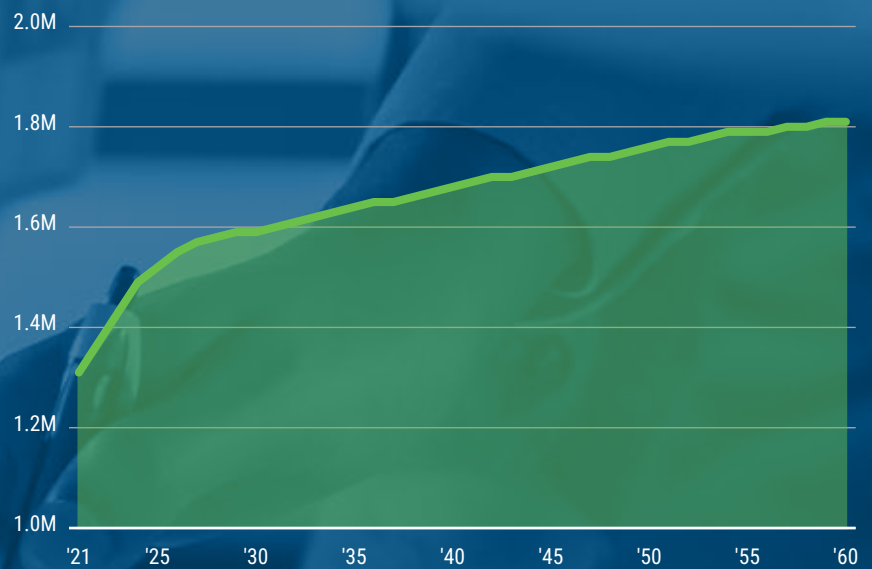


Source: UNLV Center for Business and Economic Research

## FORECASTED GROWTH IN LAS VEGAS

The Southern Nevadan economy is growing both in the size of the available workforce and in the productivity of each worker. Within the next two decades, the Center for Business and Economic Research anticipates growth in GDP of 52.8 percent for the Las Vegas area. Concurrent with projected employment growth of 18.8 percent, this indicates that for every additional employee over the next 20 years, Las Vegas will gain, on average, \$295,300 in GDP.

## PROJECTED EMPLOYMENT GROWTH IN LAS VEGAS AREA



Source: UNLV Center for Business and Economic Research

## ENGINEERING & TECHNICIAN EMPLOYMENT GROWTH FORECAST 2022 - 2032

	LAS VEGAS	PHOENIX	RIVERSIDE
<b>Chemical Engineers</b>	18.9%	39.2%	16.0%
<b>Chemical Technicians</b>	11.5%	30.6%	8.5%
<b>Chemists</b>	20.5%	29.4%	16.6%
<b>Electrical Engineers</b>	11.3%	11.0%	10.3%
<b>Electrical Engineering Technicians</b>	6.5%	6.0%	6.1%
<b>Electrical and Electronic Equipment Assemblers</b>	8.4%	4.4%	-1.6%
<b>Electronics Engineers (Non-Computer)</b>	4.3%	2.5%	2.8%
<b>Electro-Mechanical Mechatronics Technicians</b>	3.0%	14.1%	3.9%
<b>Fuel Cell/Mechanical Engineers</b>	15.5%	12.5%	13.6%
<b>Mechanical Engineering Technicians</b>	22.1%	11.9%	20.6%

Source: U.S. Bureau of Labor Statistics, Lightcast, U.S. Department of Labor

# ENERGY INFRASTRUCTURE



Power reliability and affordability are important requirements for businesses of all sizes, and Nevada has proven it can power your business now and into the future. Nevada ranked second for overall utility performance in the 2022 Electric Utility Performance review, a state-by-state data review produced by the Citizens Utility Board of Illinois.

The review compares the performance of the nation's utilities according to three standards of consumer value: affordability, reliability, and environmental responsibility. Let's show you why Nevada is the best place to locate your business:



**RANK #2**  
**RELIABILITY**

- Not only did Nevada rank second for overall utility performance, but it also ranked second in the nation for reliability. The average duration of a power outage in Nevada is about an hour and 15 minutes, well below the national average of just over 8 hours. The average frequency of power outages in the state is less than one outage per customer, less than half the national average.



**RANK #14**  
**AFFORDABILITY**

- Nevada ranked 14th in affordability. The average cost of electricity for all customers (including residential, commercial, and industrial), is \$.086 per kilowatt hour, well below the U.S. average of \$0.112 per kilowatt hour. The average residential monthly electric bill is \$110, below the national average of \$125.



**RANK #20**  
**ENVIRONMENTAL  
RESPONSIBILITY**

- Nevada also ranked high when it comes to environmental responsibility, coming in at 20th. Nevada generates 12.93 terawatt hours of renewable electricity each year, comprising just under 30 percent of the state's total energy usage.

**Source:** Citizens Utility Board of Illinois

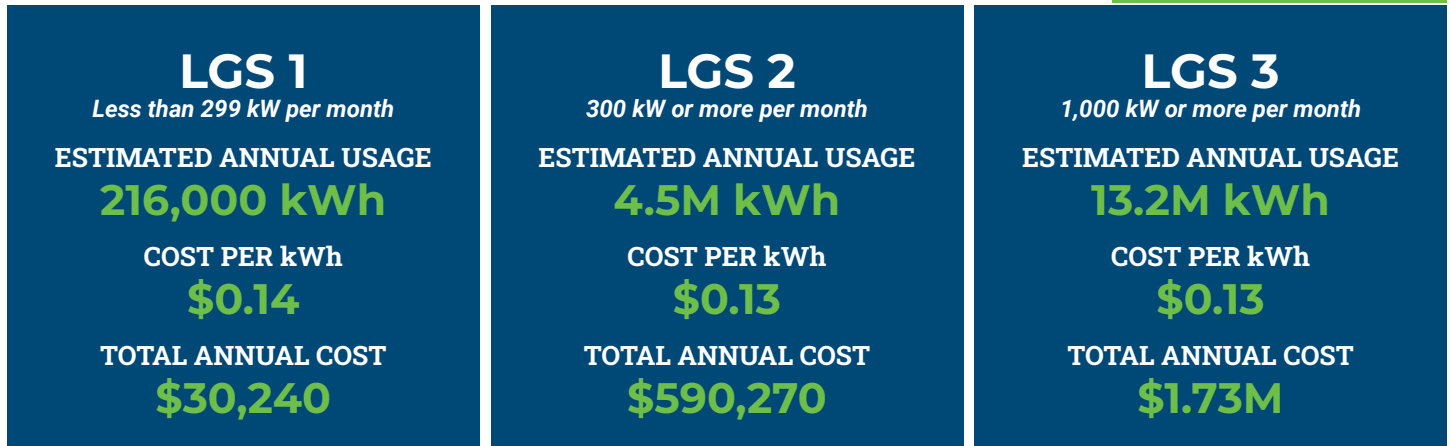
## SOUTHWEST GAS

Southwest Gas provides natural gas to homes and businesses across Nevada. For commercial customers, the company offers nine rebate and promotion programs to support the use of efficient and safe equipment. Additionally, Southwest Gas uses various rate mechanisms to insulate customers from the fluctuating market price of natural gas, allowing for fewer disruptions to operational and financial planning for businesses in Las Vegas. Combined with the company's commitment to establishing a diverse and stable network of suppliers, these factors help grow not only individual businesses in Las Vegas, but also the economy as a whole, by allowing for more efficient daily operations and growth planning.

LOCAL POWER RATES AND ESTIMATED COSTS

**Large General Service (LGS):** Non-residential service using more than 3,500 kWh.

Scan code to try the NV Energy Electricity Cost Estimator



Note: Rates effective October 1, 2023.

NEVADA'S RENEWABLE ENERGY PORTFOLIO STANDARD

In 2022, 36.7 percent of NV Energy's power came from renewable sources, the 13th consecutive year the utility has exceeded the state's renewable energy requirement, currently at 29 percent. In Las Vegas, NV Energy achieved a higher Renewable Portfolio Standard (RPS) of 37.1 percent, putting NV Energy well on its way to meeting Nevada's RPS of 50 percent by 2030. NV Energy's portfolio consists of 53 large-scale geothermal, solar, solar plus storage, hydro, wind, biomass and supported private solar projects in service and under development.

Nevada's average retail price of electricity is significantly lower than California and is also much cheaper than the U.S. average.

NEVADA POWER COSTS COMPARED TO NEIGHBORING STATES

	COMMERCIAL	INDUSTRIAL	ALL SECTORS
<b>PACIFIC STATES</b>	18.18	12.38	17.62
CALIFORNIA	21.68	17.37	22.48
OREGON	9.27	6.44	9.23
WASHINGTON	9.52	6.05	9.02
<b>MOUNTAIN STATES</b>	10.36	7.57	10.47
ARIZONA	10.79	7.74	11.29
COLORADO	11.70	8.77	11.85
IDAHO	8.29	6.72	8.53
MONTANA	10.70	7.43	9.97
<b>NEVADA</b>	9.64	8.40	10.73
NEW MEXICO	11.21	6.70	10.16
UTAH	8.44	6.88	8.86
WYOMING	9.54	6.90	8.24
<b>U.S. TOTAL</b>	12.55	8.45	12.49

Las Vegas offers high transportation accessibility and strong workforce potential at a lower energy cost than neighboring states with comparative metropolitan areas.

Source: U.S. Energy Information Administration. Note: Numbers do not include taxes. Nevada's numbers do not include franchise taxes or the UEC. The REPR, TRED, and EE rates are included. The charts above represent rates charged over the period January 2022 through December 2022. This table is an average and should not be used to determine costs for a specific project or client. All numbers represented are cents per kilowatt-hour. Totals may not equal sum of components because of independent rounding.

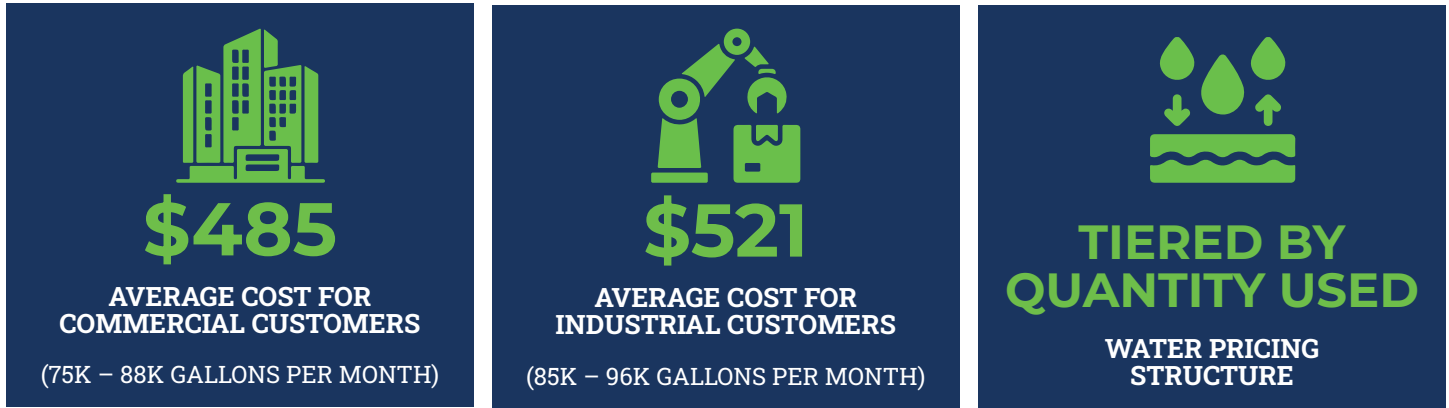
# WATER INFRASTRUCTURE

## WATER AVAILABILITY

**Contrary to what you might hear in the national media, Las Vegas is not running out of water. In fact, Southern Nevada is the most water secure region in the desert Southwest. Here's how:**

- **Southern Nevada is the only community in the U.S. that captures and recycles virtually every drop of water used indoors.**
  - Nearly all indoor water use is captured in the wastewater system, highly treated, and safely returned to Lake Mead. Every gallon returned allows Southern Nevada to draw another gallon from Lake Mead, sustainably stretching and extending the community's water supply. About 40 percent of Southern Nevada's total water use is used indoors, meaning it's all safely returned to Lake Mead to reuse.
- **Southern Nevada is a global leader in water conservation.**
  - Water used outdoors for irrigation and cooling can't be captured, treated, or used again, which is why the Southern Nevada Water Authority developed one of the world's most robust outdoor water conservation programs designed to reduce overall community water use. Conservation measures include:
    - i. **Seasonal Watering Restrictions** – establishes specific days for properties to irrigate their landscapes, with fewer watering days allowed in winter and more in the summer.
    - ii. **Water Smart Landscapes Program** – property owners can receive \$3 for every square foot of grass they replace, saving more than 11 billion gallons of water each year.
    - iii. **Non-Functional Turf Removal** – a state law required all grass in commercial businesses to be replaced by the end of 2026.
    - iv. **Water-Efficient Technologies** – a customizable program for commercial customers to improve the water efficiency of their business operations. The program rebates ice makers, dish washers, toilets, and other water-saving devices or appliances.
- The region's conservation measures have helped the community reduce its per capita use by 51 percent since 2003. The region's population has increased by nearly 800,000 people since 2003, while use of water has decreased by 31 percent. The Southern Nevada Water Authority supplies less water to more people today than they did 20 years ago.
- The Southern Nevada Water Authority and the Las Vegas Valley Water District are both members of the Leading Utilities of the World, a global network of the world's most innovative water utilities and agencies. Membership is the gold standard of utility performance.
- **Current infrastructure will allow the region to continue drawing water from Lake Mead, even if the lake drops below 'dead pool,' the minimum elevation needed to release water downstream.**
  - To address unprecedented drought conditions and provide long-term protection of the region's primary water storage reservoir – Lake Mead – the Southern Nevada Water Authority constructed a third intake capable of drawing upon Colorado River water even if the lake reaches 'dead pool.' The intake has been in use since 2015. The authority also constructed a low lake level pumping station that further protects the region's access to its water supply.

## WATER COSTS IN THE LAS VEGAS VALLEY



## WATER CONSERVATION

**Las Vegas has a unified, regional voice for water while maintaining world-class research institutions focused on solving water resource issues**

- **The Southern Nevada Water Authority (SNWA)** is a not-for-profit regional water agency formed to address Southern Nevada’s unique water needs on a regional basis. SNWA is the regional wholesale water provider for Las Vegas, serving 2.3 million residents and more than 40 million annual visitors. Member agencies include the Las Vegas Valley Water District, the Clark County Reclamation District, the cities of Las Vegas, Henderson, North Las Vegas and Boulder City, and the Big Bend Water District in Laughlin.

SNWA maintains a 50-year Water Resource Plan that is updated annually. The plan contemplates population projections, water demand, conservation, and water resources to help ensure that Southern Nevada continues to have a reliable water supply over the next half-century.

- **Desert Research Institute (DRI):** The institute is a recognized world leader in basic and applied environmental research. Since 1959, DRI’s research has advanced scientific knowledge on topics ranging from humans’ impact on the environment to the environment’s impact on humans. DRI’s research supports Nevada’s diverse economy, provides science-based educational opportunities, and informs policymakers, business leaders, and community members. With campuses in Las Vegas and Reno, DRI serves as the non-profit research arm of the Nevada System of Higher Education.
- **WaterStart:** Established in 2013, WaterStart is a non-profit organization that connects innovative technology companies with global water agencies in need of innovative solutions to enhance their business operations. The organization runs a global pilot program where novel technologies are recruited and trials are co-funded with member organizations.



# BUSINESS FRIENDLY ENVIRONMENT

## STATE AND LOCAL INCENTIVES

Offering one of the lowest tax burdens in the nation, Nevada is consistently cited by the likes of Forbes, Inc. and Money magazines as having one of the best overall business climates in the nation. Nevada's tax structure is designed to be less burdensome to both businesses and their employees. The Tax Foundation rated Nevada as the seventh best state for business in 2023.

### NEVADA STATE TAX ABATEMENTS

Nevada offers a variety of tax abatements to help qualifying companies make the decision to do business in the state. Nevada's tax abatements are regulated by state statutes that set criteria each company must meet in order to qualify for abatements.

#### ■ Available Tax Abatements:

- Personal Property Tax abatement of 50 percent of the tax due for 10 years
- Sales and Use Tax abatement reducing the rate to 2 percent for two years for a new company and 4.6 percent for two years for an expanding company
- Modified Business Tax abatement of 50 percent for four years

#### ■ Qualification Requirements:

- Pay 100 percent of the state average wage
- Generate more than 51 percent of revenue from outside Nevada
- Offer medical insurance and pay at least 65 percent of premium costs
- Maintain the business in Nevada for five years
- Must create 50+ primary jobs with two years of operation
- \$1M+ capital equipment investment (\$5M+ if the industry is manufacturing)

[Connect with our Business Development team to learn more about how your business can benefit from tax abatements in Nevada here.](#)  
[To view more information on available tax abatements click here.](#)

### ECONOMIC DEVELOPMENT RATE RIDER (EDRR)

To encourage industrial and commercial development in the state, qualifying businesses are eligible to receive a discounted electric rate from NV Energy for up to 10 years. Qualifying companies must be a new commercial or industrial customer in Nevada with a demand greater than 300 kilowatts. Companies must also apply for economic incentives through the Governor's Office of Economic Development and execute an EDRR service agreement. **[Learn more about the EDRR and whether your company may qualify.](#)**

### LARGE CUSTOMER MARKET PRICE ENERGY (LCMPE)

NV Energy's Large Customer Market Price Energy offering provides large commercial customers of 10 megawatts or more who are new to the state an opportunity to lock in a fixed energy rate based on a dedicated renewable resource for either a six-year or 25-year period. This rate provides customers with the ability to meet their long-term renewable energy goals while also ensuring the relative stability of their electric energy costs. At the same time, the LCMPE rate offering provides benefits to all NV Energy customers.

### KNOWLEDGE FUND

Administered by the Nevada Governor’s Office of Economic Development, this fund is a major instrument to recruit highly specialized science and research faculty to help further research, innovation, and commercialization at Nevada’s research universities and institutions. Through the Knowledge Fund, GOED supports projects at the University of Nevada, Las Vegas, the University of Nevada, Reno, and the Desert Research Institute.

### STATE SMALL BUSINESS CREDIT INITIATIVE

As part of the American Rescue Plan Act of 2021, Nevada’s State Small Business Credit Initiative (SSBCI) received \$113 million to expand access to capital for small businesses, build ecosystems of entrepreneurship, and create high-quality jobs. Services include two accelerator programs, a microloan program, a small business loan program, a commercial property assessed clean energy (C-PACE) program, and a collateral support program. The initiative is overseen by GOED, and operated by Nevada Battle Born Growth Escalator, a non-profit created by GOED in 2016.

### BATTLE BORN VENTURE

Battle Born Venture invests in high growth, high potential Nevada startups, making equity and equity-like investments alongside other professional venture capital investors. Since forming in 2014, the organization has invested in startups in software, consumer brands, healthcare, fintech, crop protection, and safety tech. Nevada-based startups can apply to Battle Born Venture once they have secured a lead investor for their seed, Series A or Series B round.

### NEVADA CLEAN ENERGY FUND

Launched in 2022, the Nevada Clean Energy Fund is an independent nonprofit corporation focused on financing clean energy projects in Nevada. The fund provides technical and financial resources to businesses and developments throughout the state with the purpose of reducing energy costs, creating jobs, and accelerating clean energy growth in the state. Resources from this fund available to businesses in Nevada include guidance for federal funding and tax credit programs, performance and use metrics from Energy Star, building analytics tools from the Department of Energy, and access to long-term low-cost financing programs for efficient building upgrades.

## OPERATING COST COMPARISONS

	LAS VEGAS	PHOENIX	RIVERSIDE	SALT LAKE CITY
<b>Commercial Land Cost (average price per acre)<sup>1</sup></b>	\$25,810	\$38,254	\$55,277	\$35,618
<b>Industrial Market Avg. Asking Rents<sup>2</sup></b>	\$0.81	\$1.14	\$1.51	\$0.80
<b>Industrial Electric Rates (cents per kWh)<sup>3</sup></b>	9.51	7.49	15.91	7.02
<b>Industrial Natural Gas Rates (cents per 1,000 cu.ft.)<sup>3</sup></b>	8.87	7.60	19.35	10.56
<b>Average Weekly Wage – Manufacturing<sup>4</sup></b>	\$1,238	\$1,693	\$1,285	\$1,430
<b>Workers’ Compensation Cost (per \$100 in payroll)<sup>5</sup></b>	\$1.00	\$0.87	\$2.26	\$0.86
<b>Corporate Income Tax<sup>6</sup></b>	0.0%	4.9%	8.8%	4.9%
<b>Median Commercial Property Tax<sup>7</sup></b>	1.0%	1.6%	1.3%	1.1%
<b>Unemployment Insurance Tax<sup>8</sup></b>	5.0%	18.8%	6.2%	7.0%
<b>Gross Receipts Tax<sup>6</sup></b>	0.0%	0.0%	0.0%	0.0%
<b>Personal Income Tax<sup>6</sup></b>	0.0%	2.5%	13.3%	4.0%

Source: <sup>1</sup>LandSearch; <sup>2</sup>CBRE; <sup>3</sup>U.S. Energy Administration; <sup>4</sup>U.S. Bureau of Labor Statistics; <sup>5</sup>Oregon Department of Consumer and Business Services; <sup>6</sup>Tax Foundation; <sup>7</sup>CoreLogic; <sup>8</sup>ADP





# REGIONAL COMMUNITY ASSETS SUPPORTING BATTERY TECHNOLOGY

## THE NEVADA BATTERY COALITION

The Nevada Battery Coalition is a trade association providing key support to the lithium battery industry in three primary areas: public awareness, workforce and economic development, and industry promotion. The member group is focused on establishing Nevada as the nation's lithium battery powerhouse, and it works to strengthen and diversify the state's mining, technology, and manufacturing sectors. The coalition includes member organizations operating within every stage of the lithium supply chain, including exploration, manufacturing, and recycling.

## UNLV NEVADA EXTREME CONDITIONS LABORATORY

The UNLV Nevada Extreme Conditions Lab (NEXCL) strives to answer the toughest questions about extreme temperature, pressure, field, and time in materials related science. NEXCL aims to lead the way in discovery and understanding of materials with extremes that have the greatest societal change, addressing energy and climate issues. The interdisciplinary center has expertise in high-pressure and high-temperature techniques; optical and X-ray spectroscopy; theoretical and computational methodologies; and large-scale user facility, synchrotron, and free electron laser experiments.

## UNLV CENTER FOR EMITION

The Electromagnetics Laboratory and the Pulsed Power Laboratory conduct research studies on electromagnetic phenomena interacting with materials, liquids, gasses, and plasmas in support of government and private industry. The lab houses millions of dollars of equipment, including red light and infrared lasers, optic tables, high and low voltage DC sources, a RF shielding room, and measuring equipment. The lab also houses a UHV chamber equipped with an electron gun, an electron micro-channel plate/delay-line-anode detector (MCP/DLD), cryostat, and manipulator arm with sputtering capabilities.

## UNLV CENTER FOR MECHANICAL AND ENVIRONMENTAL SYSTEMS TECHNOLOGY

The Center for Mechanical & Environmental Systems Technology (CMEST) provides a supportive university research environment for faculty and staff, while also providing research and development support to local, regional, and national companies and governmental agencies. Areas of research include computational and experimental fluid mechanics and dynamics, aerodynamics, acoustics, and vibration related to HVAC systems, mechanical products, and related manufacturing processes.

## UNLV HIGH PRESSURE SCIENCE AND ENGINEERING CENTER

The High Pressure Science & Engineering Center (HiPSEC) is a multidisciplinary research group consisting of faculty, staff, and students in the Physics and Astronomy, Geoscience, Chemistry, and Engineering departments. The center is supported by the DOE-NNSA Stewardship Science Academic Alliances.

## UNLV CENTER FOR MATERIALS AND STRUCTURES

The Center for Materials and Structures conducts materials and structures research for local, statewide, and national companies in the areas of aerospace, automotive, civil infrastructure, defense, electronics, and energy. The center also provides educational and outreach activities in support of the local and national need for highly trained personnel in those fields.

## CSN CENTER OF EXCELLENCE

A joint project between the City of Henderson and the College of Southern Nevada (CSN), the Center of Excellence is a state-of-the-art advanced manufacturing training center located in West Henderson. CSN operates its advanced training manufacturing program out of the center, including classes on mechatronics, computer numerical control and programmable logical control. The 20,000-square-foot center is equipped with state-of-the-art settings mirroring the manufacturing environment, ensuring relevant hands-on experience for students, and curriculum modules are customized for individual employers.

## MANUFACTURE NEVADA

Manufacture Nevada connects manufacturers to a comprehensive network of resources, experts, and solutions to help their businesses succeed and grow. Its mission is to grow and sustain a thriving manufacturing ecosystem in Nevada. With offices in Las Vegas, Reno, and Carson City, Manufacture Nevada works with manufacturing, mining, and construction companies to improve operating efficiency and the bottom line.

## MANUFACTURERS IN LAS VEGAS



Titanium Metals Corp.



International Game Technology

**Poly-West, Inc.**

Poly-West Inc.



Aristocrat Gaming

**KONAMI**

Konami Gaming



Young Electric Sign Company





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