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DATE: March 20, 2026

TO: The Joint Interim Standing Committee on Natural Resources (JISC NR) and the Joint Interim Standing Committee on Growth and Infrastructure (JISC GI)

FROM: Research Division Staff, Legislative Counsel Bureau (LCB)

SUBJECT: **Data Centers - Background Information**

The LCB does not support or oppose any position on topics before legislative committees.

What are Data Centers

A data center is a building filled with servers that process and store data in a "cloud" to support the world's computer functions. Such centers house national security systems (including military communications), enable online commerce and health care, and are considered the "backbone of the internet." Every credit card swipe, Zoom meeting, or email connects to a physical place—a data center.

There are different types of data centers; some of these include[1]:

- Corporate or Enterprise Data Centers—Store and process a single organization's data, such as American Express or Wells Fargo;
- Hyperscale Data Centers (aka "Hyperscalers")—Owned by large technology companies such as Google, Microsoft, and Meta. These are typically large data centers; and
- Wholesale and Retail Colocation Data Centers—Third-party operators lease data center space to one or multiple companies.

Data Centers in Nevada

There are approximately 70 data center locations planned, under construction, or operational in Nevada. Information in the table below is based on maps provided by Data Center Map and

[1] Explanation is based on the Urban Land Institute's Local Guidelines for Data Center Development; also see classifications provided by IBM and Cisco, as well as the Pew Research Center.

Baxtel.[2, 3] Both companies provide market intelligence, data center research, and consulting services. Please note, this table is an overview of companies with current or planned operations in each county. It does not account for whether a company has multiple data center locations—planned or operational—within a county.

County	Operational		Under Construction or Planned
Clark County	ISP.Net Verizon Lumen Google NOVVA DataBank	Switch FiberHub Flexential ColoXchange EdgeConnex TPx[4]	Jet.AI Edged Energy
Elko County			BluSky AI (signed a letter of intent)[5]
Lyon County location of the Victory Logistics District			Microsoft Tract[6] Copia Power—Monarch Data Campus
Storey County location of the Tahoe Reno Industrial Center (TRIC)	Google NOVVA (located near TRIC) Apple (located near TRIC) Switch		Tract Vantage Data Centers EdgeCore Internet Real Estate Colovore PowerHouse Data Centers
Washoe County	Lumen Centra Roller Network[7]		Oppidan/Connect Data Centers Webb Data Center Centra/Keystone Data Center

Data Center Map provides a visual graphic detailing the number of data centers in each state. To summarize, Data Center Map estimates that there are close to 600 data centers in Virginia, over 400 data centers in Texas, and almost 300 in California. However, the number of data centers may not necessarily reflect power or water consumption. An MIT Technology Review article analyzed NV Energy public filings, which showed that roughly a dozen data centers—mainly in Tahoe-Reno Industrial Center (TRIC)—have requested almost six gigawatts of power within the next decade. Based on International Energy Agency (IEA) data, the MIT article suggests northern Nevada would be poised to become the second-largest market, as measured by installed capacity, in the world.

Energy, Water, and Workforce Considerations

As indicated in this article by the Lincoln Institute of Land and Policy, and an analysis by the Pew Research Center, while data centers have been in operation for decades, their recent expansion is connected with the evolution of artificial intelligence (AI) tools and large language

[2] Baxtel's map includes classifications for whether a company is operational or under construction/planned.
[3] According to Baxtel, there are 71 data center locations in Nevada. However, according to Data Center Map there are 68 data center locations. Companies are included in the table above if they were either: (1) included on both Data Center Map and the Baxtel website; or (2) confirmed through a second source.
[4] Confirmed on the company's website.
[5] Confirmed in this press release. BluSky AI builds modular data centers.
[6] Tract is not a data center but rather acquires and develops land and infrastructure for wholesalers and hyperscalers to build their own data centers.
[7] Confirmed on the company's website.

models, such as ChatGPT. This section focuses on the relationship between data center growth with energy and water needs, as well as workforce.[8]

Energy

According to the IEA, the biggest sources of electricity for data centers in the United States are natural gas (40 percent), renewable sources[9] such as solar photovoltaics and wind (24 percent), nuclear power (20 percent), and coal (15 percent).

Data center energy needs arise from infrastructure such as: (1) Information Technology (IT) equipment (servers that perform computations, storage systems, et cetera); (2) cooling systems to dissipate heat generated by computations to prevent overheating; and (3) backup power supplies to ensure continuous operations and reliability. A National League of Cities (NLC) fact sheet indicates cooling accounts for over 40 percent of data center power usage (page 2).

A 2024 report contracted by the Lawrence Berkely National Laboratory (LBNL) analyzed historical trends and future scenarios for data center energy and water consumption in the United States. In 2019, data center electricity consumption accounted for 1.9 percent of total electricity consumption. This grew to 4.4 percent in 2023, and is projected to increase anywhere from 6.7 to 12 percent by 2028 (see Figure ES-1 and pages 5 to 6 of the report).

This projected increase leads to questions related to electric grid capacity and stability, whether supply and infrastructure can meet the demand, and concerns about increased costs. As such, data center developers and operators have proposed building private power plants near new data centers for on-site generation rather than connecting to the state's public grid, co-locating with other renewable sources of energy such as wind farms, or are recommissioning nuclear power plants. In Nevada, the Victory Logistics District in Fernley is considering on-site power generation, according to the Truckee Meadows Regional Planning Agency (TMRPA).

Finally, the Nevada Independent recently reported that NV Energy may miss the state's constitutionally required[10] clean energy benchmark for 2030, as power requests from prospective data centers has outpaced renewable energy supply.

Water

The link between data centers and water usage is two-fold. Water is required for cooling data center infrastructure, as well as for cooling the power plant facilities generating electricity.[11]

Various studies and analyses have indicated varying degrees of data center water consumption; some of these are summarized in the following table:

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[8] For additional information, please see the Congressional Research Services report, "*Data Centers and Their Energy Consumption: Frequently Asked Questions.*"
[9] According to the Environmental and Energy Studies Institute (EESI), which was founded by a bipartisan group of U.S. Representatives and Senators and advocates on certain energy and environmental issues, renewable energy sources require less water consumption then energy generated from fossil fuels.
[10] See Section 39 of the *Nevada Constitution*.
[11] According to the U.S. Energy Information Administration (EIA), many newer power plants have cooling systems that reuse water. In Nevada, according to the EIA, the state's largest generating plant uses a system that recycles three-fourths of the water it uses.

Study	Summary
University of California, Riverside (UCR) (2023)	Approximately two cups of water are used for every 20 to 50 AI queries. Training an AI language model used approximately 185,000 gallons of water in two weeks.
LBNL (pages 55 to 56)[12]	2014—Data centers consumed approximately 5.6 billion gallons of water; 64 percent was used by internal/enterprise data centers. 66,043,013,089. 2023—Data centers, in total, used 17.4 billion gallons of water; hyperscale and colocation facilities accounted for 84 percent of usage, or 14.7 billion. 2028—Data centers are estimated to consume anywhere from 37 billion to 66 billion gallons; hyperscale data centers alone are estimated to consume between 16 to 33 billion gallons.
UCR (2026)	Without new water efficiencies, by 2030, data centers could require almost 700 million to 1.45 billion gallons of water per day during hot weather and peak usage. Nationally, the required water infrastructure would cost between $10 billion and $58 billion.
Other Analysis (as reported by Brookings and EESI)	Data centers use approximately 300,000 to 5 million gallons per day, depending on the size.

For context, an average American household uses 300 gallons per day, or approximately 110,000 gallons per year.[13]

There are various methods data centers utilize for cooling; different methods have different degrees of water and/or energy efficiency. Some of these methods are summarized below.[14]

Methods of Cooling		
Air cooling: Air conditioning vents circulate air and remove heat (considered effective in areas where energy is cheaper and water limited). **Free cooling/air-side economizers**: Leverages cooler weather conditions and draws outside air into the data center for cooling (climate dependent, considered more energy efficient than air cooling).	**Evaporative cooling**: Relies on water evaporation for cooling (considered more energy efficient than a closed-loop system). **Closed-loop cooling**: Can utilize and reuse both recycled wastewater and freshwater (considered more water efficient than evaporative cooling).	**Immersion cooling**: Uses non-water coolants that circulate through a network of pipes (considered energy and water efficient).

Facilities may engage in hybrid cooling utilizing multiple cooling strategies.

Statewide, concerns over water usage are intensified by the fact that Nevada is the driest state in the nation. Annual rainfall averages from 7.1 inches in southern Nevada to 12.85 inches in the northeast region of the state. Exacerbating dry conditions, over half of the state's groundwater basins are over-appropriated. This means that more water rights have been allocated on paper than the actual amount of water that exists underground.

[12] The analysis reported water consumption in liters, which has been converted to gallons for purposes of this memo. These amounts do not appear to include indirect water needs for electricity production; see pages 56 and 57 of the LBNL report.
[13] The majority of water for domestic use is non-consumptive (see Figure 13).
[14] See the EESI report, and the NLC fact sheet (page 2). Also see Digital Realty's blog post, "*A Guide to Data Center Cooling: Future Innovations for Sustainability*."

Finally, for a sense of data center water usage[15] in Nevada:

- In 2023, according to Google's Environmental report, the Google facility in Storey County withdrew 1.9 million gallons and consumed 200,000 gallons, the rest was cycled back into the system (page 80). In 2024, it used 14.9 million gallons and consumed 1.5 million gallons (page 114);
- In 2025, the Las Vegas Review Journal reported that Google's site in southern Nevada used approximately 352 million gallons in 2024, while Flexential used approximately 20 million gallons. The total combined usage of all data centers was estimated at more than 716 gallons for the year; and
- According to the TMRPA and City of Reno planning numbers, the Keystone and Webb data centers will each require approximately 651,000 gallons of water a year; while Oppidan's usage is expected to be approximately 2.6 million gallons a year.

According to City of Reno planning information, a casino uses approximately 97.8 million gallons a year, a hospital uses 32.6 million gallons, and an affordable housing apartment complex uses 7.5 million gallons (see Item I1—Staff Presentation, page 7).[16]

Workforce

A 2017 report by the Technology Engagement Center, U.S. Chamber of Commerce, indicated that a typical large-scale project can employ almost 1,700 local workers during the construction phase and generate nearly $78 million in wages. Once operational, roles focused on security, operations, and IT employ, on average, over 150 local workers, generating nearly $8 million in wages (see Table 8, pages 10, and 11). Similarly, a Brookings Institute article citing an analysis of various studies from 2019 to 2024 highlighted that data center construction projects can create 1,000 to 10,000 one-time construction related jobs, but generate 50 to 400 permanent operations roles.

A separate Brookings analysis notes that data centers are boosting demand for construction and engineering jobs, but the current workforce lacks the needed skilled labor to fill them.

Federal, State, Utility, and Local Involvement

Federal

According to a policy paper published in 2025 by the Sheila and Robert Challey Institute for Global Innovation and Growth of the North Dakota State University (NDSU paper), federal laws most relevant[17] to the construction and operation of data centers are:

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[15] While water use is defined as the amount of water withdrawn from a water source, water consumption refers to the amount of water that is not returned to the source. Aside from Google's report, it is unclear how much of this may be consumptive or nonconsumptive.

[16] Water usage numbers reported by TMPRA and City of Reno were reported in acre-feet and have been converted to gallons for purposes of this memo.

[17] Other federal laws pertaining to data centers include—Section 453 of the Energy Independence and Security Act of 2007, which established a voluntary, non-regulatory program to encourage energy efficiency in data centers; amended by Section 1003 of the Energy Act of 2020, which requires the development of a metric for data center energy efficiency (at page 9), as well as others that pertain only to data centers owned by the federal government.

- **The Clean Air Act—**Data center emissions must comply with certain emissions standards and permitting requirements set by the Environmental Protection Agency and enforced by each state and certain local jurisdictions (see next section);
- **The National Environmental Policy Act—**Federal agencies must conduct certain environmental reviews for data centers with a federal nexus, i.e., data centers built on federal lands, utilizing federal funds, or connecting to interstate transmission lines; and
- **The Endangered Species Act—**Federal agencies must conduct an assessment to determine if the project will impact certain species or habitat in certain situations.

Various Executive Orders have been signed to facilitate the development of large AI data centers (NDSU paper, pages 6 to 7); examples include:

- Executive Order 13766—Directs federal agencies to expedite the issuance of permits for certain infrastructure projects, which could include large AI data centers; and
- Executive Order 14318—Directs various federal agencies to identify and authorize the use of federal lands and military installations for data center construction, identify contaminated sites such as Brownfields and Superfund sites, and launch an initiative to provide financial support for qualifying projects.

Last month, U.S. Senators Hawley and Blumenthal introduced the Guaranteeing Rate Insulation from Data Centers Act. According to the bill's sponsors, the legislation aims to: (1) ensure that consumer utility prices do not increase due to data centers; (2) prioritize consumers on the electric grid; (3) require new data centers to utilize off-grid power sources with a 10-year ramp off for existing data centers to find alternative sources; and (4) establish certain public disclosure requirements for data centers.

Finally, according to various news sources, proposals for a nationwide[18] moratorium on new construction of data centers have been discussed to allow for an assessment of how data center expansion impacts energy security, labor markets, and utility costs. Proponents argue that such moratoriums are necessary to safeguard the electric grid from rapidly increasing demand, while opponents argue that a moratorium could slow down technological progress in the U.S. and allow other countries to take the lead in innovation.

State of Nevada and Statewide Electric Utilities

The Clean Air Act requires states and local air districts to create "State Implementation Plans," which outline how the state will attain and maintain certain air pollution and emissions standards. In Nevada, the Clark County Department of Environment and Sustainability, Division of Air Quality; Northern Nevada Public Health, Air Quality Management Division; and the Division of Environmental Protection are responsible for the regulations and local rules that comprise the state's plan.

As the primary electric utility in the state, NV Energy provides electricity to data centers for power and cooling, and requires data center operators and developers to fully fund their infrastructure and energy generation.[19] NV Energy is regulated by the Public Utilities Commission of Nevada (PUCN). The PUCN requires large power users to negotiate with

[18] Eleven states have also proposed moratoriums, including New York and South Dakota. The National Conference of State Legislatures will provide information on state policy trends at the March 25, 2026, meeting.
[19] Also see slide 4 of the Nevada Rural Electric Association presentation on March 25, 2026.

NV Energy and authorizes the utility to reduce rates for data centers using clean energy (NDSU report page 8).

Additionally, data centers are referenced in provisions of *Nevada Revised Statutes* (NRS) related to tax abatements. State statutes exclude data centers from regulation as a public utility (see NRS 704.021).

Local Ordinances, Water Utilities, and Planning

Data center permitting decisions are reviewed at a local level through planning commissions and city councils. According to the NLC, local governments across the United States have adopted—or are considering—zoning and water use ordinances.

To that effect, in September 2025, the Sparks City Council directed city staff to draft regulations related to data centers. In February 2025, the Reno City Council voted against adding regulations for data centers on water and power usage, noise levels and more.

Water is provided by utilities such as Truckee Meadows Water Authority (TMWA) and Las Vegas Valley Water District.

In the TMWA service area, developers—including developers of data centers—must purchase or obtain water rights on the open market and dedicate them to TMWA. For every acre-foot required for service, TMWA requires developers to add an additional 11 percent of water rights for drought reserves.

Representatives from the Southern Nevada Water Authority indicated that their service area lacks a similar requirement because 90 percent of their water is sourced from Lake Mead, which is governed under federal law. This may be further discussed during their presentation at the March 25, 2026, meeting.

In Storey County, the Tahoe-Reno Industrial General Improvement District (TRIGID) operated by the TRI Water and Sewer Company, provides potable water, non-potable process water, and wastewater services to data centers and other customers located in TRIC.[20]

Finally, in northern Nevada, the TMRPA (created pursuant to NRS 278.026 through 278.029) reviews Projects of Regional Significance (PRS)—such as data center developments—and analyzes the energy and water impacts of such projects. A PRS is defined in statute, and includes, among other things, a project that uses at least 625 acre-feet of water a year, or 203.7 million gallons.

Conclusion

We hope this information is helpful. Should you have any further questions, please contact the Research Division at (775) 684-6825.

[20] However, TMWA's water reclamation facility provides treated effluent to TRIGID. This will be briefly discussed during the March 25, 2026, meeting.