



Identifying key sources of credit risk

BY ELLEN LI, CFA

US demand for artificial intelligence (AI) computing power has driven explosive growth for data centers, but local resource constraints and an evolving regulatory landscape pose risks for potential investors.

Sustainability considerations – which are an integral part of the Eagle Income team’s fundamental investment research process – can influence data center site selection, project design, regulatory requirements, and capital needs. These material factors can affect a company or municipality’s cash flow generation and, ultimately, its debt service capacity.

This paper explores key sustainability considerations affecting credit quality across the data center value chain and highlights how we evaluate operational and reputational risks to corporate and municipal issuers for our sustainability-focused investment

strategies. Our case studies of Microsoft and Colorado Springs Utilities examine how issuers with different exposures to data center growth have addressed these risks in practice.*

EVALUATING DATA CENTER SUSTAINABILITY

Potential source of risk	What the Eagle Income team evaluates	Potential impact on issuer credit
Power	✓ Availability, cost, and deployment time of power ✓ Grid-connected vs. behind-the-meter (BTM) generation ✓ Energy and efficiency initiatives ✓ Power usage effectiveness (PUE)	Project delays, site viability, capital requirements
Water	✓ Sourcing and long-term availability ✓ Choice of cooling system ✓ Cost and power usage tradeoffs ✓ Water sourcing ✓ Water usage effectiveness (WUE)	Site viability, operating cost, community opposition
Local community	✓ Permitting restrictions ✓ Subsidies ✓ Affordability-driven community and regulatory response ✓ Local economic benefits and community engagement	Loss of incentives, permitting and legal risk
Issuer response	✓ Efficiency and innovation investments ✓ Financial responsibility/cost-sharing ✓ Regulatory and civic engagement	

Energy consumption

Data centers must maintain precise temperature and humidity levels through robust cooling systems, which can be extremely power-intensive. A midsized 30- to 50-megawatt (MW) data center can draw the energy needed to power 5,000 homes. A hyperscale facility operated by companies such as Amazon Web Services, Microsoft, Google, Meta, or Oracle can draw as much electricity annually as 100,000 households.¹

Data centers only account for 4.4% of US total energy consumption, but they are among the fastest-growing sources of future electricity demand. The International Energy Agency (IEA) expects data centers to account for more than half of US electricity demand growth through 2030.² This could lead to the biggest surge in US energy demand since air conditioning caught on in the 1960s.³ This makes sustainable energy management in data centers more critical than ever.

Energy sourcing

Natural gas accounts for 41% of power generation for US data centers.⁴ Gas-fired plants can run continuously at high capacity, allowing them to provide 24/7 baseload power. They also can ramp up quickly to meet demand surges, which is why many data centers are built in regions like Pennsylvania and Texas where natural gas is abundant. However, methane leaks during the extraction and transportation of natural gas diminish its climate benefit over coal. Transmission bottlenecks, slow permitting processes, and gas turbine supply constraints have also limited the near-term deployment of gas-fueled data centers.

Renewables such as wind or solar farms are the second-largest source of electricity for data centers.⁵ The IEA estimates that renewable power purchase agreements (PPAs) – primarily procured by hyperscalers – will account for roughly 50% of data center electricity consumption.⁶ These contracts allow data center companies to invest in renewable energy projects and procure their energy at fixed prices over extended periods.

* This is not a recommendation to purchase or sell the companies or investment products mentioned herein.

Nuclear power also plays a critical role in powering data center growth. Recent agreements by Microsoft, Amazon, and Google illustrate how large hyperscalers have supported the restart of existing nuclear plants and the development of next-generation nuclear technologies through long-term power contracts.

Broadly speaking, the majority of data center power demand continues to be met through grid-connected generation. However, new data centers are increasingly using behind-the-meter “bridge power” that have a faster buildout time than grid sources that require utility upgrades, new transmission, or additional generation.

- Natural gas turbines are the most widely adopted source of on-site power generation. Between 2026 and 2030, announced on-site gas generation for US data centers is expected to reach nearly twice the capacity of planned grid-connected gas additions.⁷
- Battery-integrated solar systems are a cost-competitive solution in certain locations, though the short discharge duration of lithium-ion batteries might limit their role in large-scale adoption.
- Nuclear power, especially new small modular reactors and microreactors, can bypass the grid and deliver carbon-free energy to large hyperscalers, but regulatory and supply chain barriers make their deployment unlikely before 2030.

Energy efficiency

Energy efficiency can reduce operational costs, and cooling system innovations are driving significant system efficiency improvements. Cooling accounts for 40% of a data center’s electricity consumption.⁸ Traditional mechanical air cooling distributes cold air under a raised floor to cool equipment racks, but newer data centers generally use more energy-efficient designs, such as free-air and evaporative cooling. AI servers demand higher rack densities to handle larger workloads, and leading hyperscalers are transitioning toward direct-to-chip liquid cooling technologies that deliver coolant directly to servers and remove heat more efficiently.

Other innovations include improved chip architecture that maximizes performance per watt and demand response programs that coordinate energy consumption to accommodate electric grids constrained by peak demand.

Power usage effectiveness (PUE) is the most widely used metric for measuring data center energy efficiency, comparing a facility’s total energy consumption to the energy used by its information technology (IT) equipment. A PUE of 1.0 would mean that all electricity is used for computing. Many modern hyperscale data centers have achieved fleet-wide PUEs as low as 1.1, needing only an additional 10% electricity for system overhead.⁹

Key takeaway: The availability, cost, and deployment time of reliable power increasingly affect where and how quickly data centers can be built. Behind-the-meter generation and efficiency improvements are critical to managing power constraints.

Water footprint

Energy management addresses only part of the data center sustainability story. Every unit of electricity consumed – from cooling to power generation – also carries a water cost. U.S. data centers consumed approximately 17 billion gallons of water in 2023, primarily for cooling, up from 5.5 billion gallons in 2014.¹⁰ A significant amount of water is also consumed indirectly for electricity generation and upstream supply chain water use.

One report estimated that water demand by US data centers could reach 697 million to 1.5 billion gallons per day by 2030, roughly equivalent to New York City’s daily water needs.¹¹ Water demand for cooling also peaks during the summer, often coinciding with drought season. In addition to pressuring the aging infrastructure of their host communities, many data center expansions have occurred in regions with severe drought conditions, such as Central Arizona, fueling tension between communities and data center developers.

Amid the escalating water crisis, data center operators are increasingly prioritizing cooling designs that minimize water consumption and securing more sustainable water sources.

Cooling systems

Cooling systems often involve a tradeoff between water and energy consumption:

- Evaporative cooling is generally the most energy-efficient option. Water is used to remove heat and cool air in server rooms, but significant amounts are lost to evaporation.
- Closed-loop liquid cooling systems circulate water or other coolants in sealed pipes. They lose less water, but they are less energy-efficient.
- Traditional mechanical air-cooling can be water-free, but it can require more electricity to run compressors and fans.

Advances in cooling technologies have assisted data center deployment in water-scarce regions, and new AI chip designs are improving cooling efficiency. Microsoft has improved heat removal efficiency by developing a microfluidic cooling system that brings liquid coolant closer to chip hotspots through microscopic channels etched into silicon.¹² NVIDIA’s next-generation Vera Rubin chip reduces the need for chillers or fan as it can operate with coolant temperature of up to 45 °C. Startups are also developing innovative

cooling technologies aiming to use no water and less power, narrowing the tradeoff between water and energy efficiency.^{13, 14}

Disclosure around water efficiency has improved in recent years, although reporting remains less common than that for energy efficiency. A growing number of hyperscalers now report water usage effectiveness (WUE), which measures the amount of water used for cooling relative to the energy consumed by IT equipment. The industry average WUE is estimated at around 1.9 liters per kilowatt hour (L/kWh), with lower WUE values indicating greater water efficiency.¹⁵ Lower WUE can be achieved through improved cooling designs, lower ambient temperatures, and improved server utilization.

Water sources

More data centers are gradually shifting toward alternative water sources for existing evaporative cooling facilities. Many data centers, especially in water-sensitive regions, prioritize using treated municipal wastewater, harvested rainwater, or condensate from heating, ventilation, and air conditioning.

Amazon recently expanded its use of recycled water to 120 data center locations across the US. In Northern Virginia, the company works with local utilities to invest in infrastructure connecting reclaimed water pipelines to its data centers. In other regions,

operators have installed on-site water treatment systems to remove minerals and use water for more cycles before discharge. The use of non-potable water can reduce competition with other users and leave more resources for local communities.

Key takeaway: Water availability can affect a data center's site viability, operating costs, and community acceptance, making cooling efficiency and alternative water sourcing vital considerations.

Community concerns

Data center construction can create air pollution, noise, hazardous waste, and heavy construction traffic while straining water resources. The long-term presence of data centers in rural or transitional areas can also influence future zoning potential. Localized short-term and long-term land-use impacts are becoming key factors in the growing data center backlash that has blocked or slowed data center buildouts nationwide.

At the same time, the economic benefits to host communities can be less visible. Data centers can stimulate local economic activity and increase property tax revenues, but they generate relatively few permanent jobs after construction. AI, enabled by those data centers, is driving broader concerns about job displacement – and this perception has amplified community opposition to new centers.

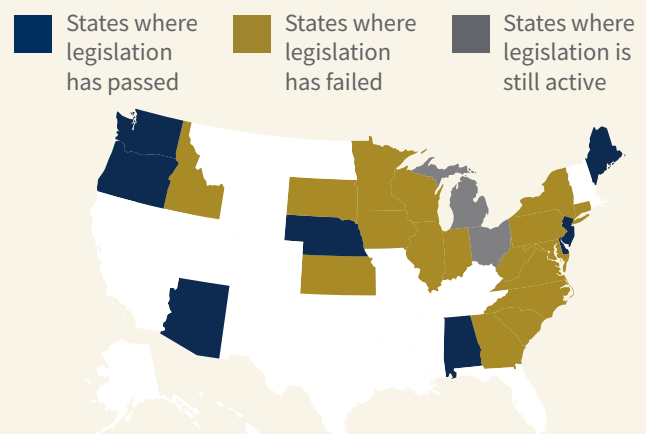
Localized opposition

- In the first half of 2026, an estimated 120 data center projects – representing approximately \$198 billion in investment – were blocked or delayed, surpassing the scale of all of 2025.¹⁶
- New York enacted a statewide one-year moratorium on environmental permits for new hyperscale data centers, and seven other states proposed similar moratoriums.¹⁷
- In Texas, Gov. Greg Abbott directed regulators and grid operators to pause all pending data center interconnection requests while projects undergo additional audits.

Tax incentives, an important component of project economics, are also facing greater scrutiny, with 25 states introducing legislation in 2026 to repeal or restrict data center tax subsidies. Measures have passed in eight states.¹⁸ At the local level, communities are using zoning or land-use laws to oppose data centers, and these efforts have increasingly gained more traction than state-level efforts. Community pushback has become a major legal and execution risk for data centers.

2026 state bills to restrict data center subsidies

State bills to restrict subsidies for data centers have been introduced this year in at least 25 states. As of July, few have been adopted.



Source: Center on Budget and Policy Priorities. “States Began Scaling Back Expensive Subsidies for Data Centers in This Year’s Legislative Sessions, But More Work Is Needed,” Aug. 7, 2026. Available at <https://www.cbpp.org/media/2026-state-bills-to-restrict-data-center-subsidies>. Accessed Sept. 21, 2026. Links are provided for information purposes only.

Another legitimate concern is the effect on electricity rates. As data center power demand surges, existing businesses and households may end up paying for infrastructure built primarily to serve new data centers connected to the same grid.

Around two-thirds of US electricity is delivered through regional wholesale power markets, and costs are generally passed through to customer electricity bills. Wholesale electricity prices have more than doubled in some markets, with many of the biggest jumps occurring near data center hot spots.¹⁹ Affordability has become a more prominent political issue heading into the 2026 election season, and data centers' effects on power bills have attracted greater public debate.

Affordability responses

Utility companies have sought minimum-take contracts with data centers that guarantee a monthly minimum fee regardless of actual power consumption. Large-load customers are also being asked to pay a substantial upfront portion of infrastructure costs.

PJM, which covers the Northern Virginia data center market, and the Electric Reliability Council of Texas, which covers the Texas data center clusters, have both worked on developing “bring your own generation” pathways to accelerate large-load

customer interconnection. Other individual regional transmission organizations (RTOs) and independent system operators (ISOs) are similarly working to standardize large-load interconnection and transmission processes.²⁰

Data center developers are best positioned for community acceptance when they actively engage in both civic and regulatory processes early on while demonstrating financial responsibility. May 2026 polling by the Rainey Center found that residents are more supportive when data centers bring their own power generation.²¹ To build community support, several major hyperscalers have publicly committed to covering the infrastructure costs of their data centers as part of the White House's Ratepayer Protection Pledge.²²

Beyond affordability, data center projects can drive greater community acceptance by focusing on community-integrated development. Investing in responsible water use and clean energy can demonstrate stronger accountability than shifting costs onto host communities. Signing community benefit agreements, training and hiring locally, and making tax contributions all provide tangible economic benefits.

Key takeaway: Community acceptance and the ability to manage incremental community costs increasingly influence the permitting and development of new data centers.



Author Ellen Li, CFA, with Managing Director, Co-Head of Eagle Income, and Investment Strategist Alexandria White, CFA.

Case studies in sustainable data centers

Sustainability has become a core factor in assessing risks to bond issuers exposed to different parts of the data center value chain. Two case studies illustrate how the Eagle Income team applies our sustainability framework to individual corporate and municipal bond issuers across the fixed income investment universe.

Because no single issuer addresses every sustainability concern perfectly, we focus on issuers demonstrating strong practices in areas where sustainability risks are most material to their long-term credit quality. These include:

- A corporate issuer that we identified as an early participant in cooling system innovation and community integration.
- A municipal issuer with notable efforts in consumer protection while addressing growth concerns.

These sustainability considerations allow us to go beyond traditional financial metrics while incorporating material issuer-specific sustainability risks in our investment research process.

Taxable bond issuer: Microsoft

Microsoft operates more than 300 data centers across 60 regions globally. Its stable credit quality is anchored by strong cash generation capacity, a dominant market position, and record AI backlog. Its net debt has risen materially, driven by heavy AI-related capital expenditures and debt issuance, although Microsoft's conservative balance sheet has relied less on incremental leverage than other big tech companies.

In our view, water management is an important factor in assessing Microsoft's data center operations. In 2025, its absolute water footprint grew by 14% alongside its expanding data center infrastructure base,²³ which remains a challenge given its significant exposure to water-stressed regions. However, water efficiency has improved notably. Data center WUE has declined from 0.49 L/kWh to 0.27 L/kWh over the past five years.

Microsoft's water conservation practices include adjustable temperature and humidity setpoints, operational analytics, and the expanded use of alternative water sources.²⁴ For new builds, the company has deployed a closed-loop, chip-level liquid cooling system that eliminates evaporative water use. Early zero-water evaporative cooling deployments in Phoenix, Ariz., and Mount Pleasant, Wisc., reflect the company's efforts to consider community water needs when operating in water-constrained locations. Microsoft reported that in 2025, for the first time, the company replenished more water than it consumed.

Microsoft seeks to offset its environmental impacts while it accepts modestly higher electricity use in exchange for lower water exposure. Despite a 24% increase in year-over-year electricity usage and higher associated emissions,²⁵ the company's power demand growth has remained below that of major hyperscale peers. It achieved 100% annual renewable-energy matching in 2025 and now pursues 24/7 zero-carbon electricity matching through large-scale renewable PPAs.

In January 2026, Microsoft announced its Community-First AI Infrastructure initiative that commits to fully cover data center-related power and grid infrastructure costs.²⁶ Its broader Datacenter Community Pledge extends beyond ratepayer protection to support local workforce development, pursue zero-water operations, and invest in watershed conservation.

Key takeaway: In our analysis, Microsoft's pursuit of innovative cooling solutions and its emphasis on community engagement reflect risk-mitigation strategies worth evaluating alongside more traditional financial metrics.



Tax-exempt bond issuer: Colorado Springs Utilities

Colorado Springs Utilities provides electric, streetlight, natural gas, water, and wastewater services to roughly 500,000 customers in the Colorado Springs region.

The utility's credit quality is supported by stable operations, sufficient liquidity, and robust security covenants. It is reducing its use of coal-generated power to favor a more diversified mix of renewable and gas sources. Consistent population growth, increased electricity demand, and planned coal retirements drive a sizeable capital program and will likely keep leverage elevated. Planned multi-year rate increases can mitigate some of these pressures and strengthen its coverage level, and the utility's relatively competitive starting rates can ease affordability pressure.

- Colorado Springs Utilities has sought to address affordability through limits on large-load growth: It approved a relatively low 10 MW threshold for new industrial customers subject to a large-load tariff, covering charges for system support and resource adequacy.²⁸
- Data center customers must provide collateral equal to 36 months of their minimum monthly bills before service begins, protecting the utility from potential data center downsizing.²⁹
- Water studies are required for large water users. Closed-loop systems may be required to ensure their water efficiency.

Key takeaway: In our view, the utility's efforts to balance growth while protecting ratepayers from potential data center-related risks are an important consideration in evaluating its credit quality.

Summary

The proliferation of data centers comes with a wide range of challenges – technological, environmental, and political – that can affect project finances, issuer cash flows, and credit quality.

The Eagle Income team believes that assessing data center sustainability is a critical component of managing operational, regulatory, and credit risks. Renewable energy, energy efficiency, and responsible water management strategies can help mitigate resource constraints, while large-load cost protection and early community engagement can reduce execution risks.

The rigorous evaluation of how companies and municipalities adapt to these changes helps Eagle identify risks that could affect long-term credit quality. We will continue to monitor technological innovation and the ever-evolving data center regulatory landscape as resource and community constraints increase.



Ellen Li, CFA, is a research analyst on the Eagle Fixed Income team. She conducts credit research for the investment-grade municipal bond market and is also responsible for research related to sustainable investing.

¹ Rebecca Leppert, “What We Know About Energy Use at US Data Centers Amid the AI Boom,” Pew Research Center, October 24, 2025, https://www.pewresearch.org/short-reads/2025/10/24/what-we-know-about-energy-use-at-us-data-centers-amid-the-ai-boom/?utm_source=chatgpt.com

² International Energy Agency (IEA), Energy and AI (Paris: International Energy Agency, April 2025), executive summary, <https://www.iea.org/reports/energy-and-ai/executive-summary>

³ Josh Saul, Leonardo Nicoletti, Demetrios Pogkas, Dina Bass, and Naureen Malik, “AI Data Centers Are Sending Power Bills Soaring,” Bloomberg News, September 29, 2025, <https://www.bloomberg.com/graphics/2025-ai-data-centers-electricity-prices/?terminal=true>

⁴ Gianluca Guidi et al., “Environmental Burden of United States Data Centers in the Artificial Intelligence Era,” arXiv, November 2024, <https://arxiv.org/abs/2411.09786>

⁵ Guidi et al., “Environmental Burden of United States Data Centers.”

⁶ Jefferies Sustainability & Transition Strategy, “Key Questions on Energy & AI w/ The International Energy Agency (IEA),” May 12, 2026, <https://javatar.bluematrix.com/docs/html/0de66ca3-aecf-4be4-9e8f-e732fb630c2a.html>

⁷ BloombergNEF, “Data Centers Steer Much of US Gas Power Additions Off-Grid,” May 2026, chart “Most US Gas Power Additions Set to Be On-Site at Data Centers,” based on BloombergNEF, Energy Information Administration, and Global Energy Monitor data, <https://blinks.bloomberg.com/news/stories/TGQ4E2KJH6V4>

⁸ Karthik Ramachandran et al., “As Generative AI Asks for More Power, Data Centers Seek More Reliable, Cleaner Energy Solutions,” Deloitte Insights, November 19, 2024, <https://www.deloitte.com/content/websites/us/en/insights/industry/technology/technology-media-and-telecom-predictions/2025/genai-power-consumption-creates-need-for-more-sustainable-data-centers.html>

⁹ IEEE Technology Navigator, “Power Usage Effectiveness,” IEEE, accessed August 10 2026, <https://technav.ieee.org/topic/power-usage-effectiveness/>

¹⁰ Arman Shehabi et al., 2024 United States Data Center Energy Usage Report (Berkeley, CA: Lawrence Berkeley National Laboratory, 2024), <https://doi.org/10.71468/P1WC7Q>

¹¹ Yuelin Han, Pengfei Li, Adam Wierman, and Shaolei Ren, “Small Bottle, Big Pipe: Quantifying and Addressing the Impact of Data Centers on Public Water Systems,” arXiv, March 2026, <https://doi.org/10.48550/arXiv.2603.02705>

¹² John Roach, “AI Chips Are Getting Hotter. A Microfluidics Breakthrough Goes Straight to the Silicon to Cool Up to Three Times Better,” Microsoft Source, September 23, 2025, <https://news.microsoft.com/source/features/innovation/microfluidics-liquid-cooling-ai-chips/>

¹³ Zach Winn, “Startup’s Nuclear-Inspired Cooling System Could Make Data Centers More Sustainable,” MIT News, June 10, 2026, <https://news.mit.edu/2026/nuclear-inspired-cooling-system-ferveret-could-make-data-centers-more-sustainable-0610>

¹⁴ Nilesh Christopher, “This L.A. Startup Uses SpaceX Tech to Cool Data Centers With Less Power and No Water,” Los Angeles Times, January 22, 2026, <https://www.latimes.com/business/story/2026-01-22/la-startup-says-its-using-rocket-science-to-cool-data-centers-in-way-that-saves-power-water>

¹⁵ Christopher Tozzi, “A Guide to Data Center Water Usage Effectiveness (WUE) and Best Practices,” Data Center Knowledge, January 17, 2025, <https://www.datacenterknowledge.com/cooling/a-guide-to-data-center-water-usage-effectiveness-wue-and-best-practices>

¹⁶ Data Center Watch, Q1 2026: Data Center Watch Report (2026), <https://www.datacenterwatch.org/q1-2026> Data Center Watch, Q2 2026: Data Center Watch Report (2026), <https://www.datacenterwatch.org/q2-2026>

¹⁷ National Conference of State Legislatures, “Which States Are Banning Data Centers?” last updated July 1, 2026, https://www.ncsl.org/fiscal/which-states-are-banning-data-centers/ftag/msf0951a18?utm_source=chatgpt.com

¹⁸ Rachel Jacobson, “States Began Scaling Back Expensive Subsidies for Data Centers in This Year’s Legislative Sessions, But More Work Is Needed,” Center on Budget and Policy Priorities, August 7, 2026, <https://www.cbpp.org/blog/states-began-scaling-back-expensive-subsidies-for-data-centers-in-this-years-legislative>

¹⁹ Saul et al., “AI Data Centers Are Sending Power Bills Soaring.”

²⁰ Federal Energy Regulatory Commission, “FERC Takes Action to Supercharge America’s Grid for Efficiency, Reliability, and a Bold Energy Future,” June 18, 2026, <https://www.ferc.gov/news-events/news/fact-sheet-ferc-takes-action-supercharge-americas-grid-efficiency-reliability-and>

²¹ Joseph Rainey Center for Public Policy, Domestic Energy and Data Centers (May 2026), [6a317d2d221255ef40039b0a_RaineyCenter_DataCenters_May2026_Memo_8.5x11_r1_digital.pdf](https://www.jraineycenter.org/DataCenters_May2026_Memo_8.5x11_r1_digital.pdf)

²² The White House, “Fact Sheet: President Donald J. Trump Advances Energy Affordability with the Ratepayer Protection Pledge,” March 4, 2026, <https://www.whitehouse.gov/fact-sheets/2026/03/fact-sheet-president-donald-j-trump-advances-energy-affordability-with-the-ratepayer-protection-pledge/>

²³ Microsoft, 2026 Environmental Sustainability Report: Data Fact Sheet (2026), 7. <https://cdn-dynmedia-1.microsoft.com/is/content/microsoftcorp/microsoft/msc/documents/presentations/CSR/2026-Microsoft-Environmental-Data-Fact-Sheet-PDF.pdf>.

²⁴ Judy Priest and Steve Solomon, “Inside Microsoft’s Two-Decade Push to Cut Water Intensity While Scaling for Growth,” The Official Microsoft Blog, June 24, 2026, <https://blogs.microsoft.com/blog/2026/06/24/inside-microsofts-two-decade-push-to-cut-water-intensity-while-scaling-for-growth/>

²⁵ Microsoft, 2026 Environmental Sustainability Report: Data Fact Sheet, 6.

²⁶ Brad Smith, “Building Community-First AI Infrastructure,” Microsoft On the Issues, January 13, 2026, <https://blogs.microsoft.com/on-the-issues/2026/01/13/community-first-ai-infrastructure/>.

²⁷ Noelle Walsh, “Microsoft’s Datacenter Community Pledge: To Build and Operate Digital Infrastructure That Addresses Societal Challenges and Creates Benefits for Communities,” The Official Microsoft Blog, June 2, 2024, <https://blogs.microsoft.com/blog/2024/06/02/microsofts-datacenter-community-pledge-to-build-and-operate-digital-infrastructure-that-addresses-societal-challenges-and-creates-benefits-for-communities/>.

²⁸ Colorado Springs Utilities, “Serving Big Power Users, Protecting Customer Costs,” 2026, <https://www.csu.org/blog/big-power-users-protecting-costs>

²⁹ Colorado Springs Utilities, “Serving Big Power Users, Protecting Customer Costs”.

Risk information

Risks associated with Fixed Income investing: Many investors consider bonds to be “risk-free” investment vehicles. Historically, bonds have indeed provided less volatility and less risk of loss of capital than has equity investing. However, there are many factors that may affect the risk and return profile of a fixed-income portfolio. The two most prominent factors are interest-rate movements and the creditworthiness of the bond issuer. Bonds issued by the US government have significantly less risk of default than those issued by corporations and municipalities. However, the overall return on government bonds tends to be less than these other types of fixed-income securities. Investors should pay careful attention to the types of fixed-income securities that comprise their portfolio, and remember that, as with all investments, there is the risk of the loss of capital.

Not every investment opportunity will meet all of the stringent investment criteria mentioned to the same degree. Trade-offs must be made, which is where experience and judgment play a key role.

Income earned from investments in municipal bonds, while exempt from federal taxes, may be subject to state and local income taxes. All capital gains, as well as income earned from other sources, are subject to taxation. Income from municipal securities may also be subject to the Alternative Minimum Tax. Municipal securities typically provide a lower yield than comparably rated taxable investments in consideration of their tax-advantaged status. Investments in municipal securities may not be appropriate for all investors, particularly those who do not stand to benefit from the tax status of the investment. Please consult an income-tax professional to assess the impact of holding such securities on your tax liability.

Bond Ratings: Ratings are by Moody’s, S&P, and/or Fitch. Ratings provided by nationally recognized statistical rating organizations, also called ratings agencies, are appraisals of a particular issuer’s creditworthiness, including the possibility that the issuer will not be able to pay interest or repay principal. Ratings are not recommendations to buy, sell or hold a security, nor do ratings remove market risk. Securities with the same rating can actually trade at significantly different prices. In addition, ratings are subject to review, revision, suspension, reduction or withdrawal at any time, and a rating agency may place an issuer under review or credit watch. Additionally, Fitch reports are available for municipal bonds. More about ratings is available at moodys.com, standardandpoors.com, and fitchratings.com.

Be sure to consider your financial needs, goals, and risk tolerance before making any investment decisions. Eagle does not provide legal, tax, or accounting advice. Any statement contained in this communication concerning US tax matters was not intended or written to be used, and cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code. Before making any investment decisions, you should obtain your own independent tax and legal advice based on your particular circumstances.

This material is a general communication being provided for information purposes only. It is educational in nature and not designed to be taken as advice or a recommendation for any specific investment product, strategy, plan feature, or other purpose in any jurisdiction. Nor is it a commitment from Raymond James Investment Management or any of its affiliates to participate in any of the transactions mentioned herein.