

Emerging Technologies, Evolving Responsibilities:

Why Investors Must Act to Mitigate AI's System-Level Impacts

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About Majority Action

Majority Action operates at the intersections of capital markets, corporate accountability, and civil society because we believe capital strategies must be part of the movement for change. We organize with investors and communities on the ground to build a fair and balanced economy—changing systems to work for us all.

About the Art

Most of the images included in this report were created by artists as part of Google DeepMind's open source Visualizing AI project, which aims to “engage and foster public understanding of AI through approachable communication”. The cover image for this report was created by Champ Panupong Techawongthawonas and “represents how AI accountability is a strong foundation in a world of unpredictability.” All images are freely available for download on Unsplash and Pexels.”

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Introduction

Artificial intelligence (AI) is widely heralded by Silicon Valley and corporate elites as a transformative force that will reshape every sector of society. AI, we are told, will unlock unprecedented gains in productivity and efficiency and generate profits on a scale comparable to past industrial revolutions. The allure and promise of AI is fueling trillions of dollars of investment, led by historic levels of capital spending by Big Tech on data centers that are being used to train large language models (LLMs) and other AI systems. Despite the threat of a faltering job market, rising inflation, and a sweeping affordability crisis, AI is driving US equity markets and company valuations to all-time highs. In the first half of 2025, AI capital expenditures contributed more to US economic growth than all of consumer spending.¹

To mitigate AI's system-level risks, long-term diversified investors must adopt **comprehensive AI principles** that establish standards for private-sector AI governance and utilize levers of influence to limit corporate behaviors that excessively externalize environmental, social, and political costs.

While much has been written about whether the AI hype will yield commensurate financial returns, there has been less discussion in investor circles around the system-level risks posed by AI's negative externalities. **Unbridled AI development is a key driver of system-level risks such as climate change, inequality, and democratic backsliding.** The AI data center boom is accelerating climate change by increasing our reliance on fossil fuels and deepening inequality by burdening communities with poor air quality and higher utility rates. AI workplace technologies are intensifying inequality by eroding worker power, exacerbating racial and gender disparities, and shrinking labor's share of income. AI is undermining democracy and contributing to authoritarian drift by fueling disinformation and misinformation and turbocharging the surveillance state. Indeed, while corporations rush to build, deploy, and impose AI on workers and communities, the vast majority of Americans harbor reservations about the negative impacts of these technologies on the environment, on their economic prospects, and on the integrity of our democratic institutions.²

AI's negative externalities aggregate into non-diversifiable system-level risks that depress economic growth, lower market returns, and threaten long-term portfolio performance. **To mitigate these risks, universal owners—long-term, diversified investors who have broad ownership over the whole economy—must adopt comprehensive AI guardrails.** In the investor context, AI guardrails are investment principles that articulate a vision for responsible AI use, establish standards for private sector AI governance, and place limits on corporate AI pursuits that excessively externalize environmental, social, and political costs. Investors must implement these principles across all relevant asset classes by utilizing various levers of influence, including strategic capital allocation, forceful stewardship, and careful selection and evaluation of external service providers.³

Investors must act with urgency. Under the current administration, US tech policy has largely jettisoned policy guardrails for partisan ideological tests and an innovation-at-any-cost deregulatory imperative. **In the face of political and regulatory capture, investors are one of the last lines of defense for ensuring that AI development and deployment is undertaken in a safe and trustworthy manner that contributes to shared prosperity, system resilience, and long-term investment returns.**

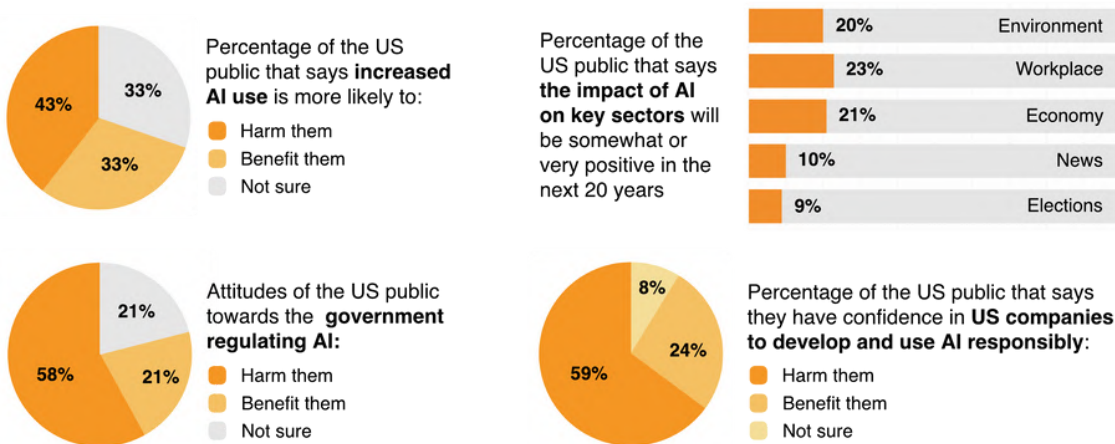
AI's Negative Externalities

Corporations generate negative externalities when they engage in harmful activities whose costs are absorbed by other actors in society. In economic terms, negative externalities arise when the social cost of production or consumption exceeds the private cost to the corporation, creating a divergence between private profits and public well-being. **These externalized costs—such as rising emissions, the erosion of labor power, and democratic backsliding—are not reflected in the company's financial statements or market price and are offloaded onto communities, governments, and other businesses.**

Outsized and unchecked corporate power leads to larger and more unevenly distributed negative externalities. In these settings, political and regulatory institutions are less able and willing to enforce limits on and set financial consequences for bad corporate behavior. Negative externalities are disproportionately borne by marginalized communities that have been stripped of the power and resources to resist harmful corporate practices. The environmental justice concept of “sacrifice zones” captures how companies profit from siting toxic and polluting industrial facilities in low-income, majority-minority, and Global South communities that are subjected to devastating health, environmental, and human rights impacts.⁴ For example, the 85-mile stretch from New Orleans to Baton Rouge known as “Cancer Alley” is home to over 150 fossil fuel and petrochemical plants, many of which are located on former plantation lands. Black communities living in this corridor have some of the highest rates of cancer, respiratory illness, and maternal and newborn mortality in the US.⁵

Public Attitudes Towards AI

While corporations rush to build, deploy, and impose AI on workers and communities, most of the US public does not believe these technologies will have a positive impact on their lives. Americans also harbor reservations about lax government oversight and the ability of companies to be responsible stewards of AI innovation.



Source: Pew Research Center

Rising Fossil Fuel Emissions

The AI race is fueling a boom in data centers—vast facilities that house servers, high-performance graphics processing units (GPUs), and computing infrastructure needed to train and run AI models. Morgan Stanley estimates that between now and 2029, data center spending will hit \$3 trillion.⁶ Alphabet, Amazon, Microsoft, and Meta plan to spend more than \$400 billion on data centers in 2026, up from \$350 billion in 2025.⁷ The compute required to power AI models, combined with the advanced energy and cooling systems needed to sustain AI infrastructure, require massive amounts of electricity. According to the US Department of Energy, data centers' grid needs could triple from 4.4% of the country's electricity consumption to 12% by 2028 due in large part to AI.⁸

How we choose to power AI data centers will determine the course, speed, and orderliness of the energy transition. The choices technology companies and electric utilities are currently making could keep us dependent on fossil fuels for the foreseeable future, depleting natural resources and exacerbating climate and environmental justice impacts. Currently, the only electricity sources that can be developed in a short timeframe to align with the anticipated construction timeline of data centers are natural gas and solar with storage.⁹ Despite the favorable economics of solar, declines in battery costs, and the volatility and supply chain issues plaguing the gas industry, tech and utility companies are resorting to expensive, carbon-intensive natural gas plants to power data centers in the near term. The International Energy Agency projects that between 2024 and 2030, natural gas will be the largest source of additional supply to meet demand growth from data centers in the US.¹⁰

Across the country, utility companies are planning to build more than 200 natural gas plants to meet projected data center demand, with utilities in Virginia, the Carolinas, and Georgia planning 20 gigawatts (GW) of new gas-fired generation over the next 15 years.¹¹ In Louisiana, for example, the regional utility Entergy is building three new gas-fired turbines with a capacity of 2.3 GW—the largest gas buildout in decades—to power Meta's \$10 billion data center, which is expected to utilize between 2 and 5 GW.¹² In light of supply chain crunches, data center developers are even reigniting demand for dirtier, less efficient types of gas turbines that were considered obsolescent just a few years ago.¹³ ExxonMobil recently announced that it would develop new gas-fired plants outfitted with carbon capture technology (CCUS) to meet data center demand.¹⁴ But CCUS—long touted by the oil and gas sector as a climate solution—is an expensive, untested technology that has yet to be deployed at commercial scale in the US.

The AI boom is even breathing new life into coal, the most polluting fossil fuel. The Open Energy Outlook Initiative estimates that more than 25 GW of coal plants otherwise scheduled for retirement could continue to operate in order to serve US data center demand.¹⁵ Southern Company's subsidiaries in Mississippi and Georgia are seeking to delay the retirement of three coal-fired power plants with 8.2 GW of generating capacity.¹⁶ In Kentucky, utility companies are planning to scrap a proposed battery storage facility while making upgrades to two aging coal plants.¹⁷ Louisville Gas & Electric and Kentucky Utilities are citing projected energy demand from data centers as the reason for keeping coal online, despite the fact that only one large data center project in the region has been publicly announced.¹⁸

Such massive investment in new gas generation and coal upgrades would likely result in “carbon lock-in,” delaying or preventing the transition to renewable energy. The Open Energy Outlook Initiative projects that power sector emissions in the US could increase 30% by 2030 if data center demand continues to be met primarily through coal and gas.



Expanding fossil fuel use is also incompatible with the net-zero ambitions of tech companies, electric utilities, and state, local, and national governments. Increasingly, Big Tech is relying on creative carbon accounting techniques to obfuscate its true AI emissions footprint and inflate its climate mitigation efforts. Hyperscalers' emissions from electricity use more than doubled between 2020 and 2024.²⁰ To offset their data center emissions, tech companies purchase renewable energy certificates (RECs), market-based financial instruments that represent units of clean energy production. While RECs enable companies to claim that their electricity usage "is matched with 100% renewable energy"—as Amazon does—research shows that most RECs fail to result in more clean energy generation and do not drive decarbonization in the grids where data centers are drawing fossil power.²¹ To make matters worse, companies such as Amazon, Salesforce, Meta, and Intel are lobbying the Greenhouse Gas Protocol—the global standard-setting body for measuring and reporting carbon emissions—to weaken existing REC accounting guidelines, a move that could "open the floodgates to emissions gaming."²²

Tech and utility companies are exploring various ways to decrease data center emissions, including investments in nuclear and geothermal power, load shifting and demand flexibility, and energy efficiency improvements in GPUs. **While these mitigation strategies are important and necessary, their outcomes are uncertain, and their time horizon is too long to address AI's current carbon crisis.** For example, tech companies are investing heavily in an emerging nuclear technology called small modular reactors (SMRs). The earliest SMRs, should they become commercially viable, will only come online in the mid-2030s, meaning they cannot meet data center demand in time to be an effective near-term climate solution.²³ Meanwhile, load shifting—the practice of shifting data center operations away from times of peak demand—could reduce emissions by up to 40% in certain markets, but—by Google's own admission—it is in early stages, is not applicable to all locations, and cannot be used for all workloads.²⁴ Furthermore, experts suggest that most data center operators are not interested in load shifting and want to run their facilities around-the-clock in order to make the most of their capital investments.²⁵

Can AI help tackle climate change?

Despite current challenges, AI-enabled systems can play a critical role in climate change adaptation and mitigation.²⁶ AI-powered early warning systems and climate models could help to mitigate disaster losses and design more resilient infrastructure, economies, and communities. In the oil and gas and waste management sectors, AI is being used to detect and address methane leaks, while in the building sector, it is being leveraged to optimize heating, ventilation, and air conditioning systems, identify scalable retrofitting opportunities, and help cities assess residential decarbonization needs.²⁷ AI could also help facilitate grid modernization, including forecasting and variable renewable energy generation, improving demand forecasting, optimizing placement of transmission projects to increase system capacity, and deploying predictive maintenance to improve grid resilience.²⁸

Still, the International Energy Agency cautions that while AI climate solutions seem promising, their potential to lower emissions could be quite marginal because the outlook for widespread adoption is highly uncertain and currently has little momentum.²⁹ For this reason, we should not bank on the promise of AI cutting more emissions than AI data centers produce.

There are also social costs to the fossil fuel-powered data center boom. The cost of building new gas generation, upgrading coal plants, and expanding transmission lines is borne disproportionately by residents through higher utility rates, even though tech companies will be the primary beneficiaries of the additional power. An estimated 80 million Americans already struggle to pay their utility bills.³⁰ Energy economists predict that data centers could be responsible for an 8% rise in electricity bills nationwide by 2030, with bills increasing by as much as 25% in data center hubs such as Virginia.³¹ Data centers also have adverse public health and environmental justice impacts, as detailed by the case study on the Memphis xAI supercomputer facility on page 16. **The social, economic, and environmental justice impacts of the AI infrastructure boom are particularly pronounced in the American South, which has become ground zero for data center development and where the long tail of slavery continues to shape the course of economic development.**³²

Deepening Inequality in the Workplace

The use of AI in the workplace exacerbates longstanding concerns around tech-enabled surveillance, algorithmic management, and automation—developments that have deepened intra-firm inequalities and power disparities. Workers are now subject to a slew of employee monitoring technologies that track their movements, keystrokes, whereabouts, speech, and biometrics—on and off the job—without their consent. AI-powered systems take employee monitoring tools to the next level by generating automated reports that assess workers' productivity, sometimes even consolidating these metrics into a single "score" that is used to make critical decisions about scheduling, terminations, discipline, and compensation—often with minimal or no human oversight.³³

While AI workplace surveillance tools promise to boost productivity and efficiency, they can also act as technologies of control that undermine workers' rights and widen the power imbalance between labor and management. LLMs are increasingly being used to predict what employers deem "problematic" employee behaviors, including the likelihood of a worker quitting, becoming pregnant, or joining a union.³⁴ A recent analysis of 500 AI labor-management vendors suggests that traditional employers in industries such as healthcare, customer service, and retail are increasingly utilizing opaque, black-box AI systems to calculate and adjust wages in real-time. As evidenced by the experiences of rideshare drivers, who were among the first to be subject to "surveillance pay" practices, these technologies increase income uncertainty, encode bias, erode wage-setting transparency, and make it difficult for workers to seek redress.³⁵

Amazon serves as a prime example of how AI surveillance technologies can negatively impact workers' health and safety, as well as their ability to exercise employment and labor rights. An investigation by the Senate Health, Education, Labor, and Pensions Committee concluded that Amazon's use of black box algorithms to set productivity quotas creates uniquely dangerous conditions for warehouse workers, while a recent study revealed that the company exploited algorithmic management tools to suppress union organizing efforts at its Bessemer, Alabama fulfillment center.³⁶

AI systems entrench bias since they are trained on data that embeds existing power asymmetries. **AI human resource (HR) tools, which enable companies to speed up and scale various aspects of the hiring process through automation, can turbocharge employment discrimination, occupational segregation, and civil rights violations.** 70% of companies use AI HR tools, including to cull resumes, evaluate candidates, do interviews, and even make automated hiring decisions.³⁷ Several studies of AI hiring systems have found clear evidence of discrimination based on gender and race.³⁸ **When deployed at scale, unchecked AI hiring platforms could foreclose opportunities to millions of workers who face structural barriers to employment and economic security.** These risks are particularly salient because increased adoption of AI hiring systems is occurring at the



same time that corporations are slashing diversity, equity, and inclusion (DEI) initiatives and federal agencies tasked with protecting workers' rights are being gutted.

Without careful investments in job training and future-proofing, AI can also lead to negative labor market impacts. Stanford researchers found that young workers in fields with high AI exposure—such as accounting, software, and customer service—have already seen a 13% decline in employment since 2022 due to AI automation.³⁹ AI-driven deskilling and unemployment will likely exacerbate existing racial and gender disparities. Black workers, for example, are overrepresented in occupations that are at risk of automation. Black workers also rely disproportionately on what McKinsey calls “high-mobility jobs,” which provide good wages and potential for career advancement but do not require a college degree. Generative AI could replace many of the tasks associated with these jobs—which are concentrated in customer service, office administration, and production supervision—thus restricting a key pathway for narrowing the racial wealth gap.⁴⁰ More fundamentally, AI's negative employment impacts could have broad social, economic, and political consequences. **High and persistent levels of unemployment and economic precarity will not only decrease consumer demand and lower GDP growth, but also increase the appetite for authoritarian solutions that further destabilize markets, sow social discord and mistrust, and undermine democracy.**

Guardrails for responsible AI use in the workplace

Like all technologies before it, AI can boost productivity, reduce inefficiencies, and enhance worker outcomes if designed and deployed responsibly. Studies show that AI monitoring technologies that aim to protect health and safety, improve job quality, and enhance performance are related to positive worker outcomes, while technologies that aim to discipline workers or discourage worker voice are related to negative outcomes.⁴¹ For example, AI has the potential to significantly elevate occupational health and safety standards by automating dangerous tasks, ensuring adherence to industry and legal standards, and detecting and preventing workplace accidents, ergonomic risks, and hazardous exposures.⁴²

Enlisting worker participation in the development and rollout of AI technologies is key to ensuring shared benefits for employees and employers. As noted by the Partnership on AI, many workplace AI systems reinforce a managerial mindset where deskilling and control over workers is seen as the path to highest profitability.⁴³ However, frontline workers possess a “deep knowledge of the ins and outs of completing core tasks,” making them “an underutilized source of expertise on issues and problems where AI could be a powerful tool or assistant.”⁴⁴ A collaborative approach to AI development not only improves job satisfaction, but also reduces labor strife, unlocks productivity gains and operational efficiencies, and improves retention and decreases turnover.

In the US—where there are few legal protections related to AI—labor unions have been able to use their collective bargaining power to win contract provisions related to AI information rights, highlighting the continued need for employers to respect workers' right to freedom of association. The Screen Actors Guild–American Federation of Television and Radio Artists (SAG-AFTRA) has reached agreements with major companies over AI digital replica use.⁴⁵ Communication Workers of America's (CWA's) contract with Microsoft's video game subsidiary ZeniMax commits the company to six guiding principles for the ethical development of AI.⁴⁶

Democratic Backsliding

AI—and generative AI in particular—poses an unprecedented challenge to the integrity of our electoral and political systems. Generative AI affords sophisticated tools of deception that can be deployed cheaply and at scale to spread disinformation. Around the world, online political discourse is inundated by AI-generated deep fakes and false news stories that go viral on social media through algorithmic amplification, political bots, and microtargeting. AI-enabled disinformation undermines democracy by polluting the information environment, spreading propaganda, obfuscating facts, casting doubt on election results, seeding mistrust, and amplifying social and political discord. AI is also being used to aid voter suppression efforts. In the 2024 New Hampshire primary election, robocalls utilizing AI voice cloning technology impersonated Joe Biden and instructed Democratic voters not to go to the polls.⁴⁷ A study by the Center for Democracy & Technology found that AI chatbots provided misinformation 61% of the time when prompted with good faith questions about accessibility laws and accommodations for disabled voters.⁴⁸ Voter suppression groups are increasingly turning to AI tools to purge people of color from voter rolls. One such tool, EagleAI, uses automated data matching and web scraping to identify suspicious voter registrations—often based on unverified, incomplete, and spurious evidence—and makes it simple for users to file mass voter challenges.⁴⁹

In addition to undertaking and funding AI development, Big Tech owns the search and social media platforms where AI content proliferates—thus exercising outsized control over our information environment and the terrain of democratic debate. However, Big Tech firms have failed to act as responsible stewards of the information ecosystem over which they command such power. **At the same time that AI-generated content is exploding, social media companies have downsized their trust and safety and content moderation teams, which are critical to stemming disinformation.** Meta, for example, shuttered its fact-checking program and loosened restrictions on hate speech.⁵⁰ Prior to the 2024 elections, 27 AI and social media companies voluntarily signed the AI Elections Accords pledging to address “deceptive election content”—yet many have failed to transparently report on their progress.⁵¹ Moreover, Big Tech poses an acute threat to independent journalism, which has long served as the “Fourth Estate” of democratic government and a critical check on disinformation and misinformation. AI firms train their LLMs on copyrighted news articles without obtaining consent from or providing payment to publishers, while Google and Meta have lobbied fiercely to defeat state laws that would force tech companies to fairly compensate news outlets for using, linking, and profiting from their content.⁵²

Despite overwhelming public hunger for more oversight, technology companies have captured democratic institutions and stymied attempts to regulate AI.⁵³ Over the years, Big Tech has spent billions to dilute, delay, and derail government action on antitrust enforcement, online safety, and data privacy. Joined by AI startups, Big Tech has successfully lobbied for rapid AI deployment, minimal regulations, and more government contracts. AI boosters who donated large sums to President Trump’s reelection campaign—such as Mark Andreessen, Elon Musk, David Sacks, and Mark Zuckerberg—have played a critical role in shaping the administration’s growth-at-any-cost tech policy. Simultaneously, they have cozied up to partisan ideological interests by decrying “woke” approaches to AI that seek to root out systemic bias.⁵⁴ A Public Citizen investigation found that in its first six months, the Trump administration halted or withdrew one-third of targeted investigations into suspected misconduct and enforcement actions against tech companies, which collectively spent \$1.2 billion on political influence during and since the 2024 elections.⁵⁵

Finally, **AI facilitates “authoritarian drift” and is being used to drastically expand the surveillance and criminal justice dragnet in ways that curtail free speech, infringe on civil liberties, and circumvent due process.**⁵⁶ Anthropic, OpenAI, Google, and xAI have secured hundreds of millions of dollars in federal defense



contracts, while Immigration and Customs Enforcement (ICE) has enlisted Palantir to develop a new AI system to speed up deportation efforts that will provide “near real-time visibility” into the movement of immigrants.⁵⁷ Social media monitoring, AI risk assessments, predictive policing, and facial recognition have long raised concerns around bias, false arrests, and black-box algorithms. AI surveillance systems supercharge these concerns by augmenting and replacing human judgment, including automating target selection, making predictions about criminal behavior, and initiating surveillance without human review. Legal scholars have noted that automating law enforcement processes further reduces accountability and transparency by concentrating power in fewer hands and reducing the possibility of whistleblowing.⁵⁸



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AI-Related Investment Risks and the Need for Guardrails

AI poses risks across multiple investment horizons. In the medium-term, investors have reasons to question whether AI will yield financial returns that are commensurate with the hype. As corporations and investors pour money into data centers and fossil energy infrastructure in anticipation of the AI revolution, industry experts have started to raise concerns about overcapacity and long-term profitability.⁵⁹ While much has been made about hyperscalers' record capital expenditures, private equity firms are fast becoming the financiers of the data center boom—acquiring and building campuses, providing private credit to data center developers, and repackaging data center assets into financial instruments such as securitized leases and infrastructure funds.⁶⁰ Data center projects are becoming increasingly speculative, with financing now flowing to building sites for non-investment-grade tenants and data center operators resorting to risky securitization deals.⁶¹ As a percentage of GDP, AI infrastructure has already exceeded the amount that was spent on telecom and internet infrastructure in the lead-up to the dot-com crash in the early 2000s.⁶²

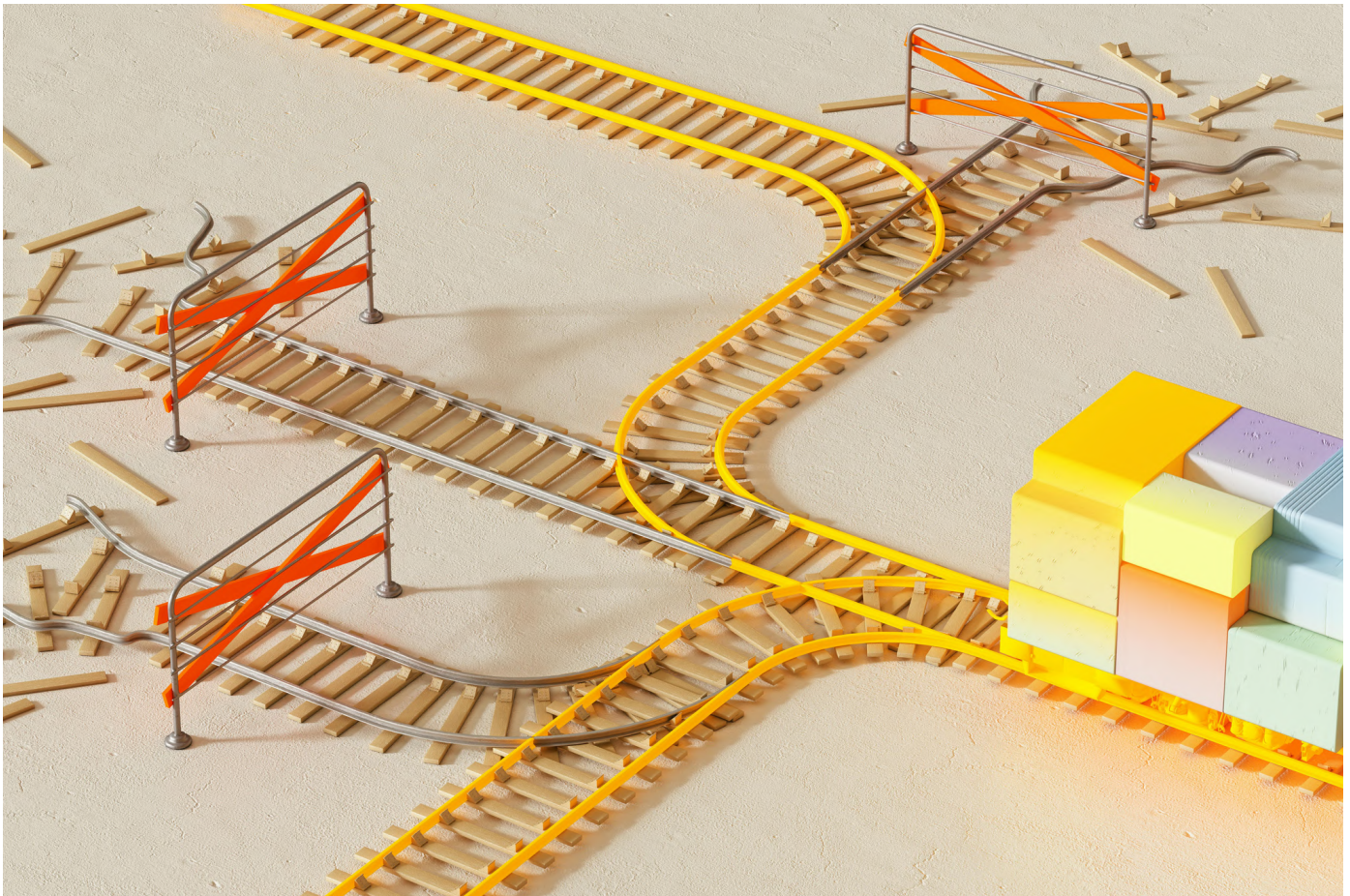
Despite the flood of capital, returns have yet to materialize. According to Morgan Stanley, hyperscalers' generative AI revenues were just \$45 billion last year—minuscule compared to their \$200 billion capex spend.⁶³ Companies such as OpenAI, xAI, and Perplexity have raised billions of dollars based on fantastic valuations, but they are still not generating profit. Financial analysts have warned that the mismatch between the decades-long financing horizons for data centers and the rapidly evolving nature of AI technologies could leave investors with stranded assets that are obsolete well before the debt matures.⁶⁴ The corporations that are propelling this AI spending boom are hedging their bets on eventual widespread AI adoption by individuals, governments, and corporations. If adoption does not occur because AI technologies fail to deliver on their value proposition, investors with considerable AI exposure could experience substantial losses. A recent MIT study validates this concern: 95% of enterprises that have implemented generative AI initiatives have to date received zero return on investment.⁶⁵

While medium-term investors may be concerned about the profitability of AI, long-term diversified investors should also recognize that widespread AI adoption threatens to amplify system-level risks. Stable, well-functioning systems provide a resilient foundation for investments across asset classes.⁶⁶ Negative corporate externalities do not just harm immediate stakeholders—they destabilize our social, environmental, economic, and political systems. In so doing, they accumulate into system-level risks that lead to economy-wide losses and underperformance—and by extension, lower market returns. Climate change and inequality are widely understood as system-level risks that negatively impact market returns by depressing growth and productivity, triggering economic shocks, and fueling social and political unrest.⁶⁷ Similarly, a long literature links democratic backsliding to poor economic and investment outcomes, with cascading effects on market stability, capital costs, and investor confidence.⁶⁸

AI is a key driver of these system-level risks. The AI data center boom is accelerating climate change by

increasing our reliance on fossil fuels and deepening inequality by burdening local communities with poor air quality and higher utility rates. AI workplace technologies are intensifying inequality by eroding worker power, exacerbating racial and gender disparities, and shrinking labor's share of income. AI is undermining democracy and contributing to authoritarian drift by fueling disinformation and misinformation and turbocharging the surveillance state. For “universal owners”—long-term investors who effectively own the whole economy—AI's negative externalities cannot simply be diversified away through asset allocation, security selection, and portfolio management. For these investors, negative corporate externalities are internalized elsewhere in their portfolio, aggregating into system-level risks that lower market returns and threaten long-term investment performance.

To mitigate these risks, we need AI guardrails—principles for ensuring that AI is designed, deployed, and used in a responsible manner that safeguards our social, environmental, economic, and political systems. As the AI race accelerates and the risks of AI adoption become more salient, tech companies are parroting the time-tested corporate line that enacting guardrails will hamper innovation. A system-level analysis suggests otherwise. Innovation and guardrails are not mutually exclusive. Absent guardrails, the spoils of AI innovation will be concentrated in the hands of a few, with widespread AI adoption facilitating a massive transfer of wealth and power from workers and communities to corporate elites. **Guardrails are needed to protect our systems from AI's negative externalities and direct innovation towards corporate pursuits that generate shared prosperity, contribute to system resilience, and deliver long-term investment returns.**



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Investors Must Adopt Responsible AI Principles to Mitigate System-Level Risks

Meaningful AI guardrails are unlikely to be advanced in the US through federal policy at the present time due to the corporate capture of political and regulatory institutions. **Unlike in Europe—where certain uses of AI are expressly banned and “high-risk” AI systems (such as those used in employment or law enforcement contexts) are subject to higher levels of regulatory oversight—US tech policy has jettisoned guardrails in favor of deregulation and partisan ideological tests.**⁶⁹ Upon taking office, President Trump revoked former President Joe Biden’s flagship executive order on AI, which sought to establish a coordinated governance framework for safe and responsible AI use.⁷⁰ Nascent protections that were advanced under the Biden administration have been rolled back, such as guidance from the Equal Employment Opportunity Commission stating that existing anti-discrimination laws are applicable to AI-driven employment decisions.⁷¹ President Trump’s AI Action Plan calls for exempting data centers from environmental regulations, as well as withholding federal funds from states with “burdensome” AI protection laws. It also instructs the National Institute of Standards and Technology to eliminate references to misinformation, climate change, and DEI from the AI Risk Management Framework—an influential benchmark that shapes the terms of AI governance in the private and public sectors.⁷²

Investor Action on AI Climate Impacts: Amazon Shareholder Resolution

In the 2025 proxy season, Majority Action worked with Amazon Employees for Climate Justice to file a shareholder resolution calling on the hyperscaler to report on how it will meet its ambitious climate goals given its massive data center expansion plans. Amazon, which announced that it would spend \$100 billion on AI data centers in 2025, has committed to reaching net-zero emissions in its operations by 2040. Majority Action’s exempt solicitation pointed to several examples of utilities expanding gas-fired capacity to accommodate Amazon data centers and highlighted the extent to which the company relies on RECs and creative carbon accounting to obscure its rising real-world Scope 2 emissions.⁷³ The resolution received 20% of votes cast, making it one of the season’s strongest performing environmental proposals. The relatively high level of support demonstrates significant investor concern around the energy impacts of data centers. Similar resolutions have been filed at Meta and Alphabet for the 2026 proxy season.⁷⁴

In the face of political and regulatory capture, investors are one of the last lines of defense for ensuring that AI development and deployment are undertaken in a safe, trustworthy, and responsible manner. As legal scholar Dorothy Lund has argued, in this moment of dissatisfaction with government, investors increasingly function—for better or for worse—as “regulators of last resort.”⁷⁵ Indeed, investors have the unique ability to mitigate AI-related risks by leveraging their capital to shape corporate behavior, set standards for AI governance, and render externality-generating AI projects cost-prohibitive.

In the absence of policy action, institutional investors must adopt robust and comprehensive AI guardrails. In the investor context, guardrails refer to a set of investment principles that articulate a vision for responsible AI use and standards for AI corporate governance. These principles must mitigate AI’s various negative externalities—including but not limited to those related to climate change, workplace inequality, and democratic backsliding—and establish limits on corporate behaviors that excessively externalize environmental, social, and political costs.⁷⁶ To implement these principles, investors must deploy various levers, including strategic capital allocation, forceful stewardship, and careful selection and evaluation of external service providers, including but not limited to asset managers, private capital general partners (GPs), proxy advisors, and investment consultants.

Investor Action on AI Climate Impacts:

No New Debt for Fossil Fuel-Powered Data Centers

In July 2025, Meta announced that it is building several massive data centers to generate the computing power needed to achieve its AI ambitions.⁷⁷ The largest of these is the Hyperion facility in rural Louisiana, which is expected to demand up to 5 GW of electricity and cover a landmass the size of Manhattan. To meet Hyperion’s power needs, Entergy has proposed building \$1.2 billion in new transmission infrastructure, as well as three new gas-fired turbines—the region’s largest planned fossil fuel expansion in decades. Local residents have raised a number of concerns about the data center project, including around water use, air pollution, greenhouse gas emissions, utility rates, and a lack of transparency in the siting and approval process.⁷⁸

On September 3, 2025, Bloomberg reported that Meta has arranged \$26 billion in debt financing for its Hyperion data center in Louisiana.⁷⁹ Meta’s bonds are expected to be issued in the primary market in late 2025 and distributed to institutional investors.

Tech companies are increasingly turning to debt financing from bond investors, traditional loan investors, and private credit lenders to fund the next stage of the AI infrastructure build-out. On the heels of the Meta story, Bloomberg revealed that JPMorgan Chase and Mitsubishi UFJ are leading a \$38 billion debt deal—the largest-ever debt package for AI infrastructure—to fund Oracle data centers that will power OpenAI.⁸⁰ **The turn to debt financing provides investors a key lever of influence—the opportunity to provide feedback by declining to provide and conditioning access to capital.**⁸¹ Climate groups have long called on financial institutions to deny debt to expansionary fossil fuel companies.⁸² Similarly, an investor could and should cease new primary market debt financing for data center projects like Hyperion that rely on building new gas generation or delaying coal retirement.

Case Study: How Workers' Pensions are Fueling xAI's Growth

Public pension funds and state sovereign wealth funds are financing Elon Musk's AI ambitions, which are propelled by dirty fossil power that is poisoning frontline Black communities.

How xAI is Poisoning Black Communities in the US South

In June 2024, Elon Musk's artificial intelligence company xAI broke ground on a massive data center called Colossus in predominantly Black southwest Memphis. Consisting of 230,000 GPUs, Colossus is the world's largest supercomputer and is being used to train Grok, the AI chatbot for Musk's social media platform X. Colossus was built in just 122 days with virtually no public input or oversight as part of Musk's mission to best AI rivals and win the LLM race.⁸³ The power-hungry facility could consume as much as 1 GW of power if Musk's expansion plans come to fruition.⁸⁴

For more than a year, xAI's 250 megawatts (MW) supercomputer was powered by 35 methane gas turbines. Gas turbines emit toxic and carcinogenic pollutants like formaldehyde and nitrogen oxides, which are linked to increased rates of asthma, respiratory diseases, heart problems, and cancer. Methane, the primary component of natural gas, is a potent greenhouse gas and major contributor to climate change. xAI operated the turbines without installing pollution controls and without seeking air permits required under the federal Clean Air Act.⁸⁵

xAI is just the latest in a long line of corporations that have turned south Memphis into a "sacrifice zone" plagued by environmental racism, air pollution, and systemic disinvestment. The Colossus facility is located a few miles from Boxtown, a low-income Black neighborhood that was founded as a Freedman Community by emancipated slaves after the Civil War. During the twentieth century, corporations flooded the neighborhood with high-polluting industrial plants, while the US military disposed of hazardous waste in areas that are now classified as a Superfund site.⁸⁶ Today, Boxtown is home to 17 industrial facilities that emit enough toxic pollution to require registration with the Environmental Protection Agency's (EPA's) Toxics Release Inventory.⁸⁷ Its cancer rate is four times the national average, in a city that has one of the highest rates of asthma-related deaths in the nation and ozone emissions levels that far exceed minimum air quality standards.⁸⁸

xAI is exacerbating this longstanding environmental, public health, and economic crisis. Researchers at the University of Tennessee found that since xAI began operations, peak nitrogen dioxide concentration levels have increased by 79% in areas immediately surrounding the data center and 9% in nearby Boxtown.⁸⁹ The local utility Memphis Light Gas and Water has already allocated 150 MW to the Colossus facility, potentially straining the grid and impacting reliability for local residents—who as a ratepayer class already pay 87% more for electricity than industrial consumers like xAI.⁹⁰ Meanwhile, the Tennessee Valley Authority is proposing to expand a natural gas plant in southwest Memphis in order to meet the electricity demands of industrial

consumers.⁹¹ To make matters worse, Grok, the AI model that is fueling the environmental degradation of Black communities in south Memphis, is explicitly designed with “less consideration for bias” than other LLMs and has spewed racist, white supremacist content on multiple occasions.⁹²

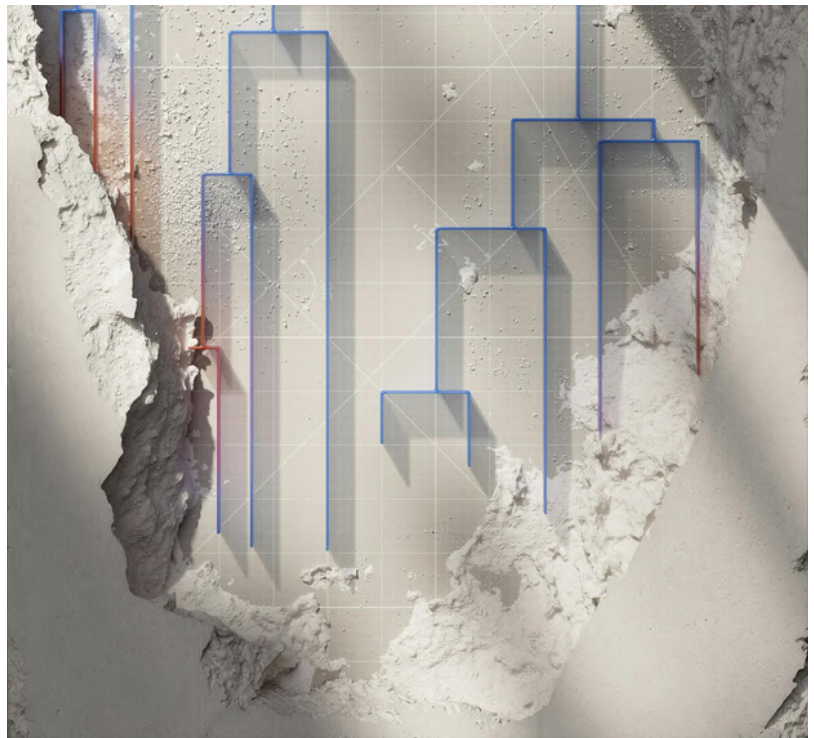
xAI's activities in Memphis are illustrative of how corporations fuel and profit from the political disenfranchisement of Black communities. Musk's supercomputer site has generated a groundswell of community opposition, spearheaded by State Representative Justin Pearson and organizations such as Memphis Communities Against Pollution, the NAACP, the Southern Environmental Law Center (SELC), and Young, Gifted & Green. Despite its scale, the Colossus project was undertaken with little to no public transparency, input, or oversight. City Council was largely kept in the dark, while at least 14 city employees, including utility executives and planning commissioners, were forced to sign non-disclosure agreements about the project.⁹³ In July 2025, the Shelby County Public Health Department granted a permit for xAI to run 15 permanent gas turbines, despite receiving thousands of public comments in opposition. SELC, on behalf of the NAACP and Young, Gifted & Green, has appealed the permitting decision on the ground that it violates federal environmental laws.⁹⁴

Memphis residents also cannot seek redress from the federal government, which has been captured by fossil fuel and Big Tech interests. President Trump's AI Action plan calls for exempting data centers from environmental impact reviews and permitting requirements under the Clean Water Act and Clean Air Act. As former head of the Department of Government Efficiency, Elon Musk oversaw the elimination of the EPA's enforcement, environmental justice, and scientific research arms. President Trump's EPA administrator is pursuing an aggressive deregulatory agenda on climate change and has named making the US the “AI Capital of the World” as a top agency priority.⁹⁵

xAI's Plans for Growth

xAI plans to open a second, 1 GW supercomputer facility called Colossus 2 in south Memphis, with executives saying they plan to “copy and paste” the process the company used to build its first data center.⁹⁶ Securities and Exchange Commission (SEC) filings reveal that xAI purchased 66 natural gas turbines for Colossus 2, which could emit between 750 and 9,300 tons of nitrogen oxides annually, depending on whether it is outfitted with emissions control technology.⁹⁷ xAI has also purchased a former gas power plant in nearby Mississippi that it will likely use to meet the electricity demands of its supercomputer facilities.

To bankroll its rapid expansion, xAI has raised more than \$27 billion from venture capital (VC) and private equity



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funds, corporate investors, sovereign wealth funds, and creditors providing debt financing. Musk is currently in talks to raise an additional \$20 billion, and future raises are likely given the capital-intensive requirements of AI training models.⁹⁸

The Public Pension Funds Financing the Future of AI

Venture capital is a key source of funding for startups and growth-stage companies on the frontiers of AI innovation. AI firms received 64% of all VC dollars invested in North America in the first half of 2025.⁹⁹ Public pension funds, which have diversified into VC and growth equity as part of their broader embrace of alternative assets, are among the largest indirect investors in emerging AI technologies. Public pension funds allocate only a small—albeit growing—portion of their portfolios to these asset classes. However, they are among the largest and most active group of limited partners (LPs) for VC and growth equity funds.¹⁰⁰ **As these funds continue to pour money into AI startups, public pension funds find themselves playing an important—if invisibilized—role in determining the direction and spoils of AI innovation.**

With VC money driving sky-high valuations and exit opportunities, many pension funds are seeking to increase their venture allocations. In 2022, the California Public Employees’ Retirement System (CalPERS) opted to increase its exposure to growth equity and VC from 20% of its private equity portfolio to 40%.¹⁰¹ Massachusetts Pension Reserves Investment Management has plans to increase its target allocation for VC from 9% to double digits by the end of 2025.¹⁰² Valerie Red-Horse Mohl, Deputy Chief Investment Officer of Responsible Investing for the New York City Retirement System, recently cited VC as an “underutilized strategy and potential driver of liquidity” for the city’s five pension funds, stating, “We’re seeing some activity that is very exciting in the venture capital markets, obviously fueled by AI. We’re seeing exits happen that make you raise your eyebrows.”¹⁰³

Pension Funds Ramp Up Venture Capital Commitments in 2025

Pension Fund	2025 VC and Growth Equity Commitments
California Public Employees' Retirement System	\$1,619M
Washington State Investment Board	\$1,000M
Florida State Board of Administration	\$730M
Teacher Retirement System of Texas	\$414M
State of Wisconsin Investment Board	\$275M
New York State Common Retirement Fund	\$93M

The largest US pension funds committed over **\$4.5 billion** to venture and growth equity funds in the first half of 2025.

Note: This list is not exhaustive and only includes commitments that were made and reported in the first 9 months of 2025.
Source: Pension fund disclosures as reported in Pensions & Investments, Connect Money, and Markets Group

Through their investments in VC and growth equity funds, public pension funds are indirectly financing xAI’s harmful actions in south Memphis. The chart below traces how some of the nation’s leading public pension funds are connected to xAI through three VC funds and one growth equity fund that are known to have invested in the company. Given the limited amount of data on fund-level investments and LPs, the chart is not meant to be comprehensive, but rather illustrative of the ways in which **workers’ capital is being used to finance an AI future that externalizes the social and economic costs onto marginalized communities.**

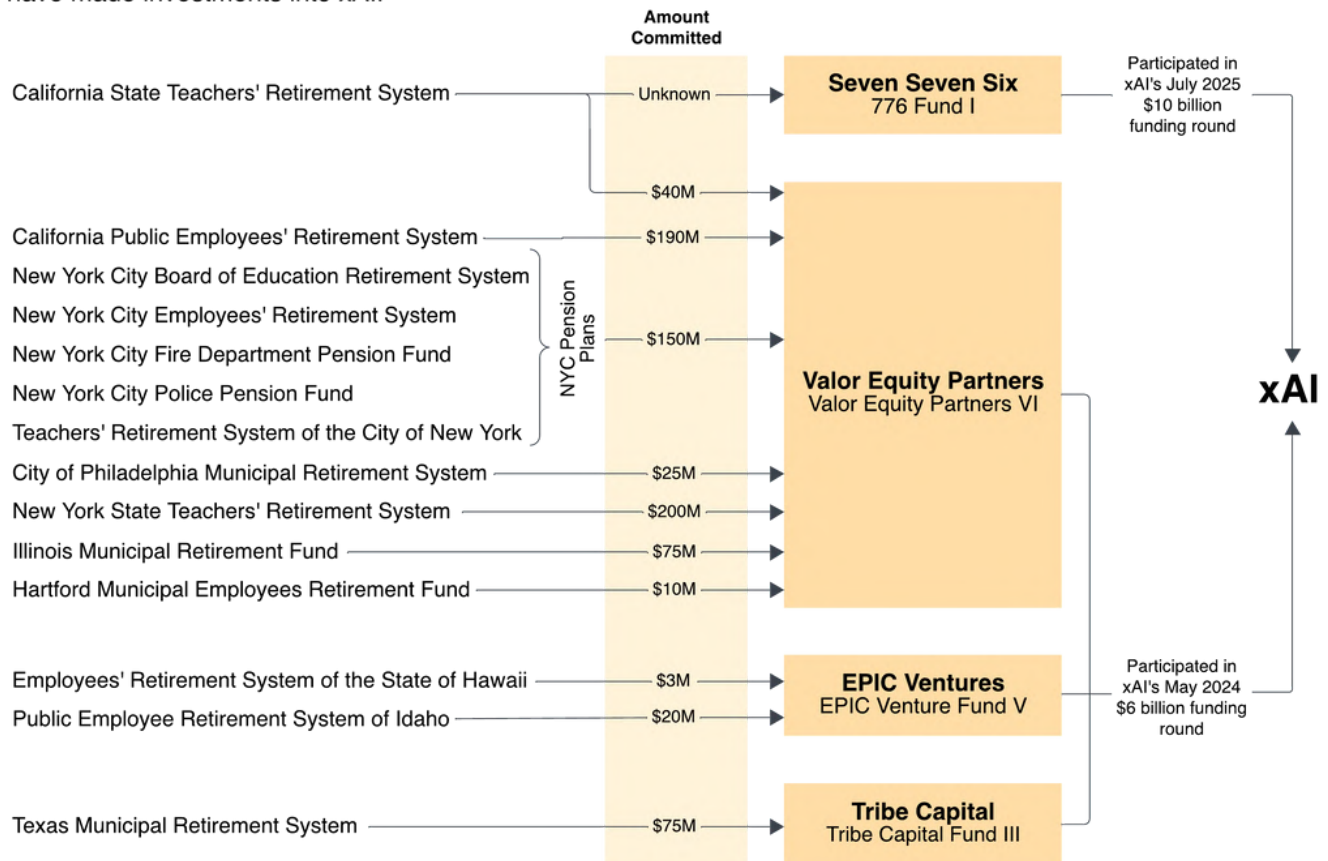


How Pension Funds Can Hold xAI Accountable

While conventional stewardship tools are limited in private markets, public pension funds can still leverage their position as LPs to address xAI's externality generating behavior. **CalPERS' Labor Principles provide a blueprint for action.** In 2023, CalPERS adopted portfolio-wide Labor Principles for responsible management of portfolio companies. When worker advocates notify CalPERS of a labor issue at a private equity fund's portfolio company, staff and/or trustees convene a meeting with the fund's GP and encourage a plan for resolution and risk mitigation to prevent future issues.¹⁰⁴ In June 2025, CalPERS revealed that it had scaled back—and in some cases ended—commitments to private equity funds that were not in alignment with its Labor Principles.¹⁰⁵

The Public Pension Funds Investing in xAI

Public pension funds have invested hundreds of millions of dollars into xAI through venture capital firms, indirectly financing the AI company's unabated carbon emissions and poisoning of Black and Brown communities in the American South. Public pension funds have committed **more than \$788 million** to four funds by venture firms Seven Seven Six, Valor Equity Partners, EPIC Ventures, and Tribe Capital that have made investments into xAI.



Note: This diagram is not an exhaustive accounting of LPs or funds that have invested in xAI. More than 87 VC firms have invested in xAI to date.

Source: Pitchbook. Fund commitments were sourced through investment reports, public disclosures, and news reports.

Public pension funds that are indirectly invested in xAI through VC and growth equity firms could utilize similar levers to hold the company accountable for its climate, environmental justice, and social impacts. These levers include, but are not limited to:

- Soliciting feedback from and engaging with communities in Memphis who are directly impacted by xAI's data center expansion.
- Formally conveying these stakeholder concerns to the GPs of VC and growth equity funds that have made investments into xAI and requesting time-bound engagement and corrective action.
- Refraining from future commitments to funds and GPs that do not undertake good-faith efforts to mitigate the system-level risks posed by xAI's data center plans and activities.
- Developing and implementing Responsible AI Investment Principles that apply across public and private asset classes, including incorporating system-level AI risk mitigation requirements into manager selection and evaluation processes, as well as into fund-level limited partnership agreements.

The History of Pension Funds Investing in Venture Capital

Pension funds' investments in venture capital were limited through 1978 due to the "prudent man" rule in the Employment Retirement Income Security Act (ERISA), which restricted investments in risky, speculative, and hard-to-value assets. In 1979, the Department of Labor ruled that portfolio diversification was a consideration in determining the prudence of an individual investment, effectively giving pension fund managers permission to invest in VC. The liberalization of ERISA rules fueled a boom in VC investing, and pensions quickly became the primary source of capital for new venture funds.¹⁰⁶ Public and private pension funds accounted for 40% of dollars committed to new VC funds in 2000, up from 15% in 1978.¹⁰⁷ Like VCs, pension funds share a long investment horizon, though they are often willing to sacrifice higher returns for higher exit probability.¹⁰⁸ The large pool of capital that pension funds command, combined with their distinctive priorities and risk-return profile, have profoundly influenced many aspects of the VC business, including deal structures, valuation expectations, sector focus, and approaches to fund management.¹⁰⁹

Join Majority Action in the Fight for AI Accountability

As detailed in this white paper, unprecedented AI growth poses system-level risks that could inhibit broad-based economic growth, undermine system resilience, and erode long-term investment returns. Investors must immediately act to adopt investment, governance, and stewardship practices that protect our portfolios and the public good before it is too late.

When mobilized for long-term value creation, investor action is a powerful force capable of mitigating the systemic risks that threaten our lives, our communities, our democracy, and our planet. Majority Action helps to organize the capital held by institutional investors—asset managers and pension funds that manage workers' retirement savings, public investment entities that invest state and taxpayer resources, religious institutions, and foundations—to ensure their investment decisions align with the values and needs of their beneficiaries, their stakeholders, and our communities. We equip investors with the tools to use their influence responsibly, linking their investment decisions to the realities faced by those on the frontlines of corporate harm.

We believe that an effective system-level approach to AI requires deep collaboration between investors and communities who are the most impacted by harmful corporate behavior. To that end, **Majority Action and its core partners are building an advisory group of investors and civil society organizations with expertise in AI governance, energy and climate change, workers' rights, racial justice, and democracy to co-develop a comprehensive template for responsible AI investment principles, along with a roadmap for implementation.** Interested in learning more about the advisory group? Contact us at info@majorityact.org.



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107. Paul A. Gompers, ["The Rise and Fall of Venture Capital,"](#) *Business and Economic History*, vol. 23, no. 2 (Winter 1994); Günseli Baygan, ["Venture Capital Policy Review: United States,"](#) *Organisation for Economic Co-operation and Development*, STI Working Paper 2003/12, August 21, 2023.
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109. Ibid.



Glossary of Terms

Artificial Intelligence (AI): The science of enabling machines to perform tasks that would have previously required human brainpower, including reasoning, decision making, differentiating words and images, learning from mistakes, predicting outcomes, and problem solving.

Generative AI: An AI model that can generate new text, images, video, or audio based on vast amounts of raw data that the generative model was trained on.

Data center: A facility that houses and manages computer systems, storage, and networking equipment to ensure the reliable operation and secure management of critical data and applications, including AI models.

Large language model (LLM): A specific type of generative AI model that can recognise, summarize, translate, predict and generate text. LLMs are focused primarily on natural language generation and comprehension.

Hyperscalers: Companies such as Alphabet, Amazon, Meta, and Microsoft that provide computing services by operating extensive data center infrastructure capable of supporting vast numbers of servers and handling large-scale workloads, catering to global demand.