February 20, 2025

Legal Challenges and Opportunities at the Intersection of AI Data Centers and Power Infrastructure

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The explosive growth of artificial intelligence has sparked unprecedented demand worldwide for data center capacity, which provides the computing power to run advanced AI applications. This expansion presents complex legal challenges and opportunities at the intersection of computing infrastructure and power generation. This article observes key legal issues that stakeholders should consider and navigate as they develop, grow, and operate data centers and power infrastructure at a previously unprecedented pace.

Background

A little over two years ago on November 30, 2022, ChatGPT made its first appearance to the general public.[1] Although research and development into artificial intelligence was already well underway, the public release of ChatGPT was nothing short of a "big bang" moment for the AI industry. In particular, public interest and financial investments in the field of generative AI (GenAI)—the broad category of Large Language Models (LLMs) used for text and content creation that includes ChatGPT and numerous competing chatbots—has skyrocketed in the past two years. For example, *The New York Times* reported that investors poured $27.1 billion into AI start-ups in the U.S. in the second quarter of 2024 alone, "accounting for nearly half of all U.S. start-up funding in that period."[2]

AI models, in particular GenAI models that power ChatGPT and similar chatbots, are trained with vast amounts of data.[3] These complex models require enormous computing power, both during training and when processing user inquiries.[4] Such demand has driven eye-popping growth not only at companies that provide computing hardware such as graphic processing units (GPUs), but also the data centers that house and connect

computing systems that power AI applications.[5] Indeed, McKinsey & Company predicts that "[g]lobal demand for data center capacity could more than triple by 2030."[6]

As a result, the race to grow data center capacity is accelerating. For instance, ChatGPT's creator OpenAI, Japanese investment firm SoftBank, and software giant Oracle are planning a joint venture called Stargate, which plans to invest up to $500 billion in AI infrastructure in the United States.[7] Boston Consulting Group reports that leading data center players are readying a massive deployment of capital—$1.8 trillion from 2024 to 2030—to meet the surging global demand for computing power.[8]

But, like most technological advances, the anticipated explosion in AI won't come without a cost: it is also expected to drive rapid growth in energy consumption. According to the 2024 Data Center Usage Report by the Berkeley National Laboratory, data centers' consumption of electricity more than doubled from 1.9% of total U.S. electricity consumption in 2018 to 4.4% by 2023, largely driven by the increase of GPU-powered servers used for AI.[9] The Berkeley report forecasts that data centers will demand between 6.7% to 12.0% of total U.S. electricity by 2028.
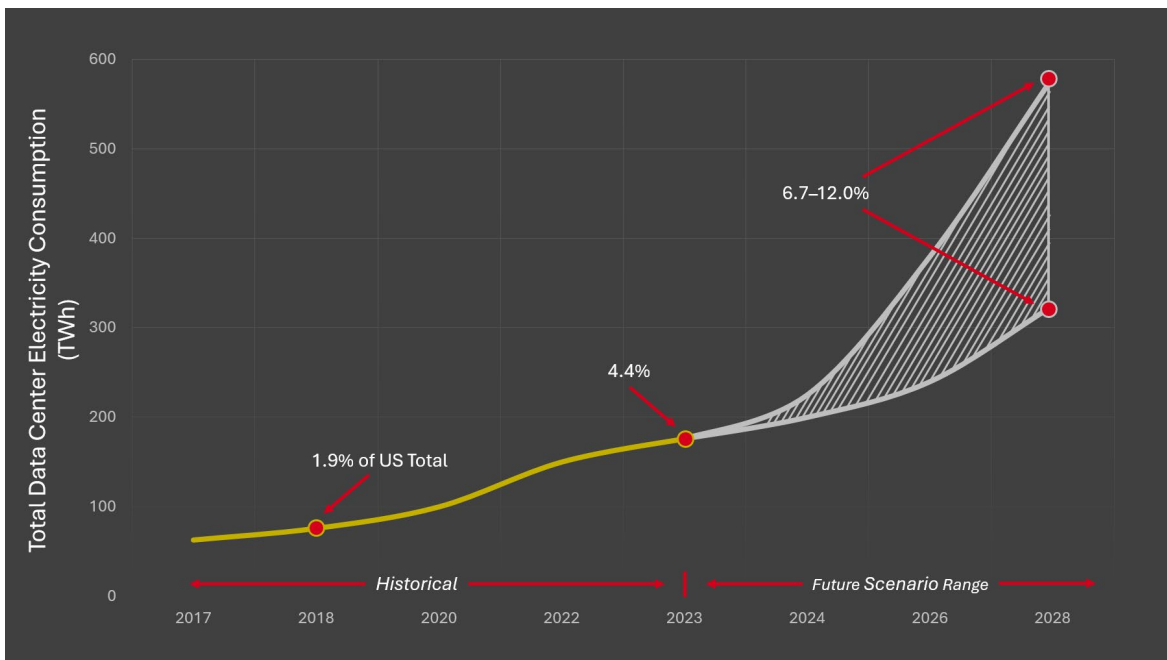
Total U.S. Data Center Electricity Use and Forecast: 2017–2028

The U.S. government has also taken note. Shortly before leaving office, the Biden administration signed an Executive Order aimed at "addressing the rapidly growing energy needs of advanced AI datacenters," which, among other things, ordered the Departments of Defense and Energy to identify new sites for AI data center development.[10,11] Then, on their first day in office, the new Trump administration issued an Executive Order Declaring a National Energy Emergency aimed at accelerating the permitting of oil, gas, and power projects.[12,13]

In the coming decade, the rapid developments in AI, data centers, and power infrastructure will birth new legal issues and test existing frameworks. These issues are already starting to play out through regulation, legislation, and in the courts. This article does not attempt to be a comprehensive analysis of all legal issues related to these developments. Instead, it aims to identify several key areas for potential legal disputes that may affect clients involved with the AI, data center, or power industries.

Financing, Land Use, and Power Acquisition

The rapid development of new data centers and power infrastructure will be accompanied by a myriad of legal challenges, both known and new to these industries. For instance, Jones Lang LaSalle reports that the U.S. market for colocation data center capacity has doubled in just four years, construction continues at "an extraordinary pace," and related construction loan requests have surged.[14] This breakneck pace in development, construction, and financing will invariably cause existing bandwidths to reach capacity and offer challenges which will create innovative opportunities for business and legal teams supporting clients in these industries.

Given the increasing governmental interest in the development of these resources,[15] stakeholders must adapt to new deal structures, regulations, and public scrutiny while keeping pace with the rapid growth. For instance, the substantial upfront capital investment required for data centers and power infrastructure has encouraged hybrid financing structures that integrate debt financing, private equity, and strategic partnerships. While the AI data center industry has so far found governmental and investor support, public and regulatory scrutiny will remain.

Real estate challenges will include, for example, navigating jurisdiction-specific land use and zoning requirements. While many jurisdictions welcome data centers' economic

benefits, local regulations often impose restrictions regarding facility siting, design, and operation. Height restrictions, visual impact assessments, and noise ordinance compliance can, for example, significantly impact facility design and operations. Furthermore, buffer zone requirements may limit site selection options, particularly in urban areas. As an example, the City Council for Atlanta—one of the hotspots for data center growth in the U.S.—limited where data centers can be built around the city, as part of an effort to make Atlanta more pedestrian-friendly.[16] The ability to quickly adapt to these challenges will require legal teams working with governmental agencies and the private sector to respond with an increase in the use of intergovernmental agreements and public/private partnership strategies.

Real estate site control efforts for data centers require careful attention to legal due diligence that is beyond the physical asset—with a view toward critically analyzing the capital expenditures (CapEx), operating expenses (OpEx), and rough order of magnitude (ROM) indicators of a facility.[17] Further, environmental site assessments need to address historical and future contamination risks and potential liabilities, and compliance with real estate laws and regulations is particularly important when securing necessary utility corridors and access rights, which often involves negotiations with multiple property owners and jurisdictions.

As discussed through this article, ensuring data centers are adequately powered provides a whole set of challenges on its own. The imminent surge in power consumption by AI data centers will not only push power generation, but also the delivery of power to these data centers (i.e., grid interconnection). For instance, the massive power requirements of AI data centers may necessitate substantial upgrades to local transmission infrastructure.[18] Legal frameworks governing cost allocation for these upgrades vary by jurisdiction, requiring careful navigation of both federal (FERC) and state-level requirements. Interconnection agreements will need to address technical requirements, operational protocols, and liability allocation.

Other issues involving power generation include power purchase agreements (PPAs), which has grown in recent years into a major factor in data center energy procurement strategies.[19] These complex long-term contracts, usually involving renewable energy sources, require careful negotiation of terms governing supply reliability, pricing mechanisms, and risk allocation. Regulatory approval requirements for large-scale power

purchases add another layer of complexity.[20] Existing schemes will also be challenged as the current administration looks to boost domestic oil and gas production,[21] and encourage power plant development co-located with AI data centers.[22]

Environmental Compliance and Regulations

The environmental impact of data centers raises important legal considerations as these facilities consume massive amounts of energy and resources and produce byproducts that must be returned to the environment. In particular, data centers and power infrastructure operators will need to navigate evolving environmental, social, and governance (ESG) commitments, as well as consider regulatory and litigation risks.

For example, air pollution generated by data centers and power generation facilities presents potential challenges. One particular issue concerns backup generator emissions. Data centers typically maintain substantial diesel generator capacity for emergency power, triggering complex air permit requirements and emission monitoring obligations.[23] As climate policies evolve at the international,[24] federal, state, and local levels, facilities will need to navigate various reporting and regulatory obligations, as well as industry initiatives committed to maintaining certain environmental goals, such as the Climate Neutral Data Centre Pact.[25]

Water usage and treatment present another set of potential environmental considerations. Modern data centers require substantial water for cooling systems, leading to potential conflicts over water rights and usage, as well as concerns relating to handling of waste material. In addition, an estimated 20% of data centers in the United States rely on watersheds that are already under moderate to high stress from drought and other factors.[26] Data center operators, especially those in water stressed areas, must navigate complex legal frameworks, often through state laws and regulations, governing water allocation between competing stakeholders. For example, after years-long negotiations with local groups raising concerns that aquifers were being depleted, a leading data center operator agreed to monitor and control its use of groundwater to cool computer servers at a data center in Berkeley County, South Carolina.[27]

These challenges will be accompanied by a transformation in the power generation infrastructure that will support the rapid development of new data centers or expansions of existing ones. Although the electric power sector had experienced marked gains in water

efficiency over the past decade driven by a transition towards cleaner sources of energy, annual water withdrawals by the U.S. electric power sector remained around 50 trillion gallons by 2021.[28] As regulations are expected to be rolled back or relaxed in the current federal administration, this trend may reverse, particularly as power generation accompanies the growth in AI data centers.[29]

Technology, International Trade, and Intellectual Property

McKinsey estimates that capital spending on procurement and installation of mechanical and electrical systems for data centers is likely to exceed $250 billion by 2030.[30] Such investments will drive innovation both domestically and abroad. The sourcing of these technologies will both impact and be impacted by international trade issues, particularly as trade policy has entered center stage in the early days of the new administration.[31]

As AI companies push for more powerful hardware to improve the performance of their AI models and reduce latency in processing user requests, suppliers of specialized components—notably cutting-edge GPUs and other microprocessors—have become ever more critical in the global technology ecosystem.[32] Another expected area of growth will be in the interconnections between computing resources, both within data centers and across larger networks. In particular, data center growth is expected to drive renewed investments and innovation in fiber optic technologies used in data center interconnections. [33,34]

These and other critical technologies often rely heavily on international supply chains. Ensuring access to them often poses a strain on AI development and deployment.[35] Data center developers and other stakeholders will need to closely monitor geopolitical developments as they may have significant impacts on the cost and speed of bringing data center capacity online to feed resource-hungry AI models.

The economic growth and technological innovation that will be driven by data center and power infrastructure investments may present opportunities for stakeholders to expand their technical capabilities and intellectual property portfolios. Technology areas that have been identified as ripe for innovation and growth include data center cooling technologies, power management systems, server architectures, interconnectivity, and power generation and delivery.[36] In addition, proprietary data center designs and operations may be attractive for trade secret protection. And this does not even include innovations in the actual AI technology driving the boom.

Stakeholders looking to capitalize on IP protection for their innovations in this space will not only need to address traditional questions involving IP law, but also consider the relationships between the various parties in a venture.[37] For example, the kind of large-scale, multi-party projects that could drive the growth in these fields in the coming decade will invariably involve complex agreements and commitments, and often sharing of confidential information and trade secrets. Such relationships may implicate cross-licensing, co-ownership, and joint-liability obligations, as well as spawn litigation when things don't work out.

Physical, Cyber, and Information Security

As artificial intelligence transforms the technology landscape, data centers will face heightened pressure to boost security measures, particularly in facilities handling sensitive AI workloads and the personnel that access them. This challenge is compounded by evolving compliance requirements, increasing cyber threats, and complex international data protection regulations. For example, the recent launch of ChatGPT Enterprise Government Edition highlights the growing intersection between AI capabilities and government operations, necessitating enhanced security protocols and potentially implicating security clearance requirements.[38]

At the most basic level, physical security breaches remain a significant, but sometimes overlooked, concern for data centers, often serving as entry points for security compromises.[39] While organizations frequently focus on cybersecurity measures, physical vulnerabilities can also provide attackers with direct access to critical infrastructure. Data center facilities must adhere to critical infrastructure protection standards while managing the unique risks associated with AI systems.[40] Compliance with such standards has become increasingly complex, requiring data centers to implement comprehensive sophisticated security protocols encompassing multiple layers of protection which often include:

- *Access Control Systems*: Multi-factor authentication, biometric verification, and sophisticated visitor management systems have become standard security measures. These systems often track and verify personnel entering sensitive areas while maintaining detailed access logs. Relatedly, the collection of biometric information has spawned a hotbed of litigation under state statutes such as Illinois Biometric Information Privacy Act ("BIPA").[41]

- *Employee Clearances*: As data centers handle more sensitive information, employee vetting has become more rigorous. Background checks, security clearances, and ongoing monitoring of personnel have become crucial components of security protocols, particularly as collaborations grow between AI vendors and the U.S. Government.

- *Continuous Monitoring*: Advanced surveillance systems, environmental monitoring, and real-time security alerts are often essential for maintaining facility integrity and responding to potential threats. However, operators and security teams should ensure compliance with privacy laws and regulations and workers' rights.

Careful attention to data center security measures will be ever more critical as significant data breaches have made headlines on a seemingly increasing basis. For instance, a recent cyber attack on an Indonesian data center exemplifies the growing sophistication of attacks.[42] Furthermore, even if a security breach does not compromise sensitive information, data center downtime can be extremely costly to operators and organizations that use those data center resources.[43] Cyber security teams should work closely with legal counsel to anticipate and protect against potential fines and other liability that might stem from service interruptions and security compromises.

Of course, the complexity of data center security extends beyond physical and cyber protection to encompass data security and privacy. Potential issues include managing cross-border data flow restrictions, which often require specific security measures and data localization requirements,[44] and complying with privacy regulations such as the General Data Protection Regulation (GDPR) and similar privacy laws worldwide that impose requirements on data handling and protection. Given AI's growing prevalence in handling sensitive personal and commercial information, data center operators must ensure their physical, cyber, and data security practices are ready to meet the demands of the booming AI industry, as well as understand the related legal requirements and risks.

Community Impact

The potential impacts of the ongoing expansion in data centers and power infrastructure are too nuanced to discuss comprehensively in the confines of this article. While these developments will certainly boost economic and developmental activity in various

communities, they will also raise significant legal issues that will need to be addressed through negotiations, governmental actions, and, inevitably, litigation.

For example, the growing appetite for power by expanding data centers could exacerbate legal concerns relating to access to power. Reuters recently reported that, according to the North American Electric Reliability Corporation, "[a]bout half of the United States is at increased risk of power supply shortfalls in the next decade that could lead to outages and electricity conservation measures."[45] Disputes stemming from the rising demand in electricity may be played out at multiple levels, including federal agencies such as the Federal Energy Regulatory Commission (FERC) and the various states. For instance, Georgia, one of the hotbeds for data center development, has seen significant political activity on these issues. The Georgia Public Service Commission, which regulates electricity rates in the state, recently approved changes to the leading utility's rules and contract provisions aimed at relieving residential customers from the cost of adding new large-scale data centers to the existing grid.[46] Players in the data center and power industries should be prepared to engage with regulators and other governmental entities in this quickly developing environment.

The relationship between data centers and local communities often begins with redevelopment agreements and economic development agreements that carry significant legal implications and obligations on the part of the stakeholders. These agreements can include tax incentives,[47] job creation requirements, use of local workforce and workforce training programs, and infrastructure development obligations.[48] While these agreements can bring substantial benefits to communities, they also create complex legal obligations that data center operators must carefully manage. In particular, tax incentives for data center development can be controversial, leading to heightened scrutiny of compliance with agreement terms and the delivery of promised community benefits.[49] Operators who enter into such agreements should be prepared to integrate those commitments into their operations and subcontracting practices and to adopt a workable community engagement strategic plan.

Finally, as data centers become even more prevalent in the coming years, communities may raise various environmental and quality-of-life concerns, leading to legal challenges. Such claims may include, but not be limited to, nuisance claims focusing on noise and light pollution caused by the continuous operation of large-scale equipment; property value and

community impact claims in attempts to stop data center construction;[50,51] and environmental claims, such as concerns regarding groundwater and soil impacts,[52] as well as issues stemming from power generation that support data centers.

Successful navigation of these challenges will require careful attention to evolving legal requirements and proactive engagement with community stakeholders. Data center operators, and stakeholders in the power industry supporting data centers, should be prepared to address these issues in their development planning and ongoing operations.

Looking Ahead

The intersection of AI-driven data centers and power infrastructure growth presents complex legal challenges requiring careful attention from facility developers and operators. Success in this booming landscape will require proactive engagement with regulatory compliance, community investment, and emerging technologies. As AI continues to drive demand for computing capacity, the legal considerations discussed in this article could play an increasingly important role in facility development and operation strategies.

To address these challenges, organizations should take a comprehensive approach including engaging early with regulators, communities, and other stakeholders to develop sustainable solutions. Regular review and updating of due diligence programs, compliance protocols, litigation-preparedness strategies, and even insurance coverage will be essential as legal frameworks continue to evolve in response to technological transformations and environmental concerns. Organizations that monitor and proactively address these challenges will be better positioned to succeed in this dynamic environment.

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[1] *Introducing ChatGPT*, OPENAI (Nov. 30, 2022), https://openai.com/index/chatgpt/.

[2] Eric Griffith, *Investors Pour $27.1 Billion Into A.I. Start-Ups, Defying a Downturn*, NYTIMES (July 3, 2024), https://www.nytimes.com/2024/07/03/technology/ai-startups-funding.html.

[3] Adam Pasick, *Artificial Intelligence Glossary: Neutral Networks and Other Terms Explained*, NYTIMES (March 27, 2023), https://www.nytimes.com/article/ai-artificial-intelligence-glossary.html.

[4] Tim Clark, *Why Does AI Consume So Much Energy*, FORBES (Dec. 3, 2023), https://www.forbes.com/sites/sap/2023/12/20/why-does-ai-consume-so-much-energy/.

[5] *Aligned Data Centers Completes Capital Raise of Over $12 billion*, REUTERS (Jan. 15, 2025), https://www.reuters.com/technology/aligned-data-centers-completes-capital-raise-over-12-billion-2025-01-15/.

[6] *AI Power: Expanding Data Center Capacity to Meet Growing Demand,* MCKINSEY & COMPANY (Oct. 9, 2024), https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/ai-power-expanding-data-center-capacity-to-meet-growing-demand.

[7] Steve Holland, *Trump Announces Private-Sector $500 Billion Investment In AI Infrastructure*, REUTERS (Jan. 21, 2025), https://www.reuters.com/technology/artificial-intelligence/trump-announce-private-sector-ai-infrastructure-investment-cbs-reports-2025-01-21/.

[8] Vivian Lee, et al., *Breaking Barriers to Data Center Growth,* BOSTON CONSULTING GROUP (Jan. 20, 2025), https://www.bcg.com/publications/2025/breaking-barriers-data-center-growth.

[9] Arman Shehabi, et al., *2024 United States Data Center Energy Usage Report*, LAWRENCE BERKELEY NATIONAL LABORATORY (Dec. 2024), https://eta-publications.lbl.gov/sites/default/files/2024-12/lbnl-2024-united-states-data-center-energy-usage-report.pdf.

[10] Melissa Farney, Turning of the Tides: An Analysis of Recent U.S. Presidential Support for Data Centers and Digital Infrastructure, DATA CENTER FRONTIER (Jan. 22, 2025), https://www.datacenterfrontier.com/machine-learning/article/55262504/turning-of-the-tides-an-analysis-of-recent-us-presidential-support-for-data-centers-and-digital-infrastructure.

[11] David Shepardson, *Biden Signs Executive Order to Ensure Power For AI Data Centers*, REUTERS (Jan. 14, 2025), https://www.reuters.com/technology/artificial-intelligence/biden-issue-executive-order-ensure-power-ai-data-centers-2025-01-14/.

[12] *Declaring a National Energy Emergency*, THE WHITE HOUSE (Jan. 20 2025), https://www.whitehouse.gov/presidential-actions/2025/01/declaring-a-national-energy-emergency/.

[13] Timothy Gardner, et al., *Trump Says He Will Unleash American Fossil Fuels, Halt Climate Cooperation*, REUTERS (Jan. 21, 2025), https://www.reuters.com/world/us/trump-will-declare-national-energy-emergency-incoming-administration-official-2025-01-20/.

[14] *Rapid Expansion: Opportunities And Challenges For The Data Center Sector*, JLL (Mid-year, 2024), https://www.us.jll.com/content/dam/jll-com/documents/pdf/research/americas/us/jll-us-data-center-report-h1-2024.pdf.

[15] *See, e.g.,* Dan Swinhoe, *President Biden Signs Executive Order to Open Up Federal Lands for Gigawatt-Scale Data Center Campus Development*, DATA CENTER DYNAMICS (Jan. 14, 2025), https://www.datacenterdynamics.com/en/news/president-biden-signs-executive-order-to-open-up-federal-lands-for-gigawatt-scale-data-center-campus-development/.

[16] Riley Bunch, *Atlanta City Council Bans Data Centers In Some Areas*, THE ATLANTA JOURNAL- CONSTITUTION (Sept. 3, 2024), https://www.ajc.com/news/atlanta-news/atlanta-city-council-bans-data-centers-in-some-areas/NIJQ3P3XQBD3VBSCWX62UX666M/.

[17] *See, e.g.,* Rick Einhorn & Greg Roberts, *Acquiring Data Centers? Don't Overlook These Critical Areas During Due Diligence*, RAMBOLL (Sept. 5, 2023), https://www.ramboll.com/en-us/insights/decarbonise-for-net-zero/acquiring-data-centers-due-diligence.

[18] Denise Dubie, *Sustainability, Grid Demands, AI Workloads Will Challenge Data Center Growth In 2025*, NETWORKWORLD (Jan. 21, 2025), https://www.networkworld.com/article/3806848/sustainability-grid-demands-ai-workloads-will-challenge-data-center-growth-in-2025.html.

[19] Andreas Franke, *Data Centers Account For Half Of US Clean Energy Procurement But Only 20% In Europe: Report*, S&P GLOBAL BLOG (Oct. 31, 2024), https://www.spglobal.com/commodity-insights/en/news-research/latest-news/electric-power/103124-data-centers-account-for-half-of-us-clean-energy-procurement-but-only-20-in-europe-report.

[20] Zachary Skidmore, *Do PPAs Have A Future In The Data Center Sector?*, DATA CENTER DYNAMICS (Feb. 10, 2025), https://www.datacenterdynamics.com/en/analysis/do-ppas-have-a-future-in-the-data-center-sector/.

[21] Timothy Gardner, et al., *Trump Says He Will Unleash American Fossil Fuels, Halt Climate Cooperation*, REUTERS (Jan. 21, 2025), https://www.reuters.com/world/us/trump-will-declare-national-energy-emergency-incoming-administration-official-2025-01-20/.

[22] Ethan Howland, *Trump Plans To Use Emergency Powers To Fast-Track Generation Co-Located With AI*, UTILITY DIVE (Jan. 24, 2024), https://www.utilitydive.com/news/trump-emergency-co-located-power-plants-ai-data-center-davos/738209/.

[23] Doug Ruhlin, *Emergency Backup Generators & Environmental Permits*, RESOURCE MANAGEMENT ASSOCIATES (Oct. 14, 2021), https://www.rmagreen.com/rma-blog/environmental-permits-emergency-backup-generator.

[24] *E.g.*, European Union Corporate Sustainability Reporting Directive.

[25] *Climate Neutral Data Centre Pact*, CLIMATE NEUTRAL DATA CENTER, https://www.climateneutraldatacentre.net/.

[26] Michael Copley, *Data Centers, Backbone of The Digital Economy, Face Water Scarcity and Climate Risk*, NPR (Aug. 30, 2022), https://www.npr.org/2022/08/30/1119938708/data-centers-backbone-of-the-digital-economy-face-water-scarcity-and-climate-ris.

[27] *Google Agrees to Limit Groundwater use From S.C.* Aquifer, SOUTHERN ENVIRONMENTAL LAW CENTER (Dec, 16, 2019), https://www.southernenvironment.org/news/google-agrees-to-limit-groundwater-use-from-s-c-aquifer/.

[28] Paul McArdle, *U.S. Electric Power Sector Continues Water Efficiency Gains*, EIA (June 14, 2023), https://www.eia.gov/todayinenergy/detail.php?id=56820.

[29] Ethan Howland, *Trump Plans To Use Emergency Powers To Fast-Track Generation Co-Located With AI*, UTILITY DIVE (Jan. 24, 2024), https://www.utilitydive.com/news/trump-emergency-co-located-power-plants-ai-data-center-davos/738209/.

[30] *AI Power: Expanding Data Center Capacity To Meet Growing Demand*, MCKINSEY & COMPANY (Oct. 29, 2024), https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/ai-power-expanding-data-center-capacity-to-meet-growing-demand.

[31] *See, e.g.,* Stephan E. Becker, et al., *Trump 2.0: U.S. Imposes Tariffs on Key Trading Partners*, GLOBAL TRADE & SANCTIONS LAW (Feb. 2, 2025), https://www.globaltradeandsanctionslaw.com/trump-2-0-u-s-imposes-tariffs-on-key-trading-partners/.

[32] Marcus Law, *Nvidia: The Powerhouse Driving Global Digital Transformation*, TECHNOLOGY MAGAZINE (Nov. 27, 2024), https://technologymagazine.com/articles/nvidia-the-powerhouse-driving-global-digital-transformation.

[33] Ben Atherton, *Optical Fiber Innovation: Driving Seamless Flow in Hyperscale Data Centers*, AFL (Match 22, 2024), https://www.aflhyperscale.com/articles/fiber-optic-innovation-driving-seamless-flow-in-hyperscale-data-centers/.

[34] Sandra MacGregor, *Quantum Leap: Data Centers Thrive on Turbocharged Fiber-Optic Networks*, DATA CENTER KNOWLEDGE (Jan 18, 2024), https://www.datacenterknowledge.com/networking/quantum-leap-data-centers-thrive-on-turbocharged-fiber-optic-networks.

[35] Ellie Gabel, *How the AI Boom is Impacting Supply Chains*, THE NETWORK EFFECT (Oct. 9, 2023), https://supplychainbeyond.com/how-the-ai-boom-is-impacting-supply-chains/.

[36] *The Data Center Balancing Act: Powering Sustainable AI Growth,* BROWN ADVISORY, https://www.brownadvisory.com/sites/default/files/The_Data_Center_Balancing_Act_Powering_Sustainable_AI_Growth.pdf.

[37] *E.g.,* Project Stargate involving Open AI, Softbank, and Oracle.

[38] *OpenAI Launches ChatGPT Gov. For U.S. Government Agencies Amid Rising AI Competition*, REUTERS (Jan. 28, 2025), https://www.reuters.com/technology/artificial-intelligence/openai-launches-chatgpt-gov-us-government-agencies-amid-rising-ai-competition-2025-01-28/.

[39] Kelly Higgins, *Fives Ways to (Physically) Hack A Data Center*, DARK READING (May 17, 2010), https://www.darkreading.com/cybersecurity-analytics/five-ways-to-physically-hack-a-data-center.

[40] *See Standards,* NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION, https://www.nerc.com/pa/Stand/Pages/Default.aspx.

[41] Nick Kahlon, et al., *Client Update on BIPA*, RSHC (May 20, 2024), https://www.rshc-law.com/docs/default-source/client-alerts/alerts---client-alert---2024-05-20-update-on-bipa.pdf.

[42] *Cyber Attack Compromised Indonesia Data Centre, Ransom Sought*, REUTERS (June 24, 2024), https://www.reuters.com/technology/cybersecurity/cyber-attack-compromised-indonesia-data-centre-ransom-sought-reports-antara-2024-06-24/.

[43] David Flower, *Half US At High Risk Of Power Shortfall In Next Decade, Regulator Says*, FORBES (Apr. 10, 2024), https://www.forbes.com/councils/forbestechcouncil/2024/04/10/the-true-cost-of-downtime-and-how-to-avoid-it/.

[44] Frank J. Schweitzer, et al., *The Rise of Artificial Intelligence, Big Data, and the Next Generation of International Rules Governing Cross-Border Data Flows and Digital Trade—Part I*, THE GLOBAL TRADE LAW JOURNAL (2024), https://www.whitecase.com/sites/default/files/2024-03/global-trade-law-published-ver-schweitzer-part-1.pdf.

[45] *Half US At High Risk Of Power Shortfall In Next Decade, Regulator Says*, REUTERS (Dec. 17, 2024), https://www.reuters.com/business/energy/half-us-high-risk-power-shortfall-next-decade-regulator-says-2024-12-17/.

[46] Drew Kann, *Georgia Approves New Rule to Charge Data Centers for Power*, GOVERNMENT TECHNOLOGY (Jan. 28, 2025), https://www.govtech.com/products/georgia-approves-new-rule-to-charge-data-centers-for-power.

[47] *Tax Incentives for Data Centers*, STREAM DATA CENTER, https://www.streamdatacenters.com/resource-library/glossary/tax-incentives-for-data-centers/.

[48] Scott Wright, *Tricks and Traps of Data Center State Tax Incentives*, TAXNOTES (Jan. 1, 2024), https://www.taxnotes.com/special-reports/tax-technology/tricks-and-traps-data-center-state-tax-incentives/2023/12/28/7hmb7.

[49] *See, e.g.,* Greg Bluestein, *Kemp Veto Preserves Data Center Tax Break In Georgia*, THE POLITICS (May 7, 2024), https://www.ajc.com/politics/veto-day-kemp-will-soon-decide-whether-to-sign-or-nix-key-georgia-proposals/ERHECJVZQVFFVNOID45JORJ25A/.

[50] Georgia Butler, *Virginia Residents File Lawsuit Against Devlin Technology Park Data Center Campus*, DATA CENTER DYNAMICS (Jan. 3, 2024), https://www.datacenterdynamics.com/en/news/virginia-residents-file-lawsuit-against-devlin-technology-park-data-center-campus/.

[51] Eva Herscowitz, *Farmington Residents Sue City Over Proposed Data Center Campus*, THE MINNESOTA STAR TRIBUNE (Dec. 13, 2024), https://www.startribune.com/farmington-data-center-lawsuit-tract/601194541.

[52] *Lawsuit Pushes California City to Reevaluate Data Center's Environmental Harms*, CENTER FOR BIOLOGICAL DIVERSITY (Dec. 3, 2024), https://biologicaldiversity.org/w/news/press-releases/lawsuit-pushes-california-city-to-reevaluate-data-centers-environmental-harms-2024-12-02/.