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AI’s data boom faces climate cost and governance gaps

Executive Summary

An environmental watchdog and a new public survey warn that the data infrastructure fuelling generative AI could reverse climate gains and is meeting public resistance. Meanwhile, research underscores that only a tiny fraction of organisations have truly AI-ready data, with widespread gaps in data quality and governance continuing to stall enterprise AI ambitions.

Climate warning over AI’s data infrastructure

A new analysis by the Sierra Club, released on 28 October, casts a stark light on the environmental cost of artificial intelligence’s data infrastructure. The US environmental group found that the planned surge in fossil-fuelled power plants to run AI data centres could push the US power sector’s carbon emissions to **2.1 billion metric tons by 2030** - a **42% increase from 2025** levels (www.claimsjournal.com [1]). That jump would effectively wipe out **15 years of emissions reductions** from the grid. The findings underscore a hidden cost of the AI boom: the massive energy consumption and carbon footprint of the data centres required to train and run large AI models. As companies race to scale up their AI capabilities, this climate impact could invite stricter regulations or community opposition, adding new risks and costs to AI projects.

Those community frictions are already emerging. A **University of Houston survey of likely voters in Texas** - where data centre construction has become a campaign issue - found **79% support limits on new data centres** in their state (www.uh.edu [2]). A near-unanimous **99%** of respondents believe any new facilities should pay for required electric grid upgrades (www.uh.edu [3]). Texans are worried that the rising power and water demands of huge AI-focused server farms will increase utility costs and strain local resources (www.uh.edu [4]). Candidates in the state’s upcoming November elections have taken note of these concerns, tempering their support for unbridled data centre expansion (www.uh.edu [5]). For tech leaders, these warnings highlight that the path to AI at scale runs through not just technical milestones, but also sustainability and public trust. Failing to address environmental and infrastructure impacts could stall critical data projects or lead to expensive compliance requirements as regulators and communities push back.

References:

[1] www.claimsjournal.com — https://www.claimsjournal.com/news/national/2026/10/29/340971.htm#:~:text=construction%20of%20fossil,Club%E2%80%99s%20principal%20advisor%20for%20climate
[2] www.uh.edu — https://www.uh.edu/news-events/stories/2026/october/10272026-hobby-survey-data-centers-election.php#:~:text=to%20help%20than%20hurt.%2028,The
[3] www.uh.edu — https://www.uh.edu/news-events/stories/2026/october/10272026-hobby-survey-data-centers-election.php#:~:text=stability%20of%20the%20grid,Ren%C3%A9e%20Cross
[4] www.uh.edu — https://www.uh.edu/news-events/stories/2026/october/10272026-hobby-survey-data-centers-election.php#:~:text=to%20help%20than%20hurt.%2028,of%20artificial%20intelligence%20and%20the
[5] www.uh.edu — https://www.uh.edu/news-events/stories/2026/october/10272026-hobby-survey-data-centers-election.php#:~:text=data%20centers%20needed%20to%20power,saying%20they%20will%20not

Firms forge ahead on AI without data foundations

Even as companies invest heavily in AI tools, most are constrained by a lack of data readiness. A global survey of 10,000 businesses found that **97% of organisations have active AI initiatives, but only 5% say their data is ready to support them** (www.cio.com [1]). This **Dun & Bradstreet survey**, released in May, reflects the messy reality behind the AI hype: enterprises are eager to experiment with generative AI and other advanced tools, yet **95% admit their data - from quality and integration to governance - isn't fully prepared for scalable AI**. Over half of those polled cited data access and quality issues as top barriers to moving from experimentation to real operational AI (www.cio.com [2]). The result is a growing 'readiness gap' where AI projects proceed on shaky data foundations, increasing the likelihood of errors, bias and compliance failures.

Other research confirms the disconnect. In a study of 2,000 companies by Accenture this year, a mere **7% of firms (dubbed "Data Reinventors") have built the necessary AI-ready data capabilities to scale advanced AI** across the enterprise (www.accenture.com [3]). Meanwhile, a survey of **600 data leaders** found widespread overconfidence: **88% believed their data was AI-ready, yet 43% identified data readiness as a primary obstacle** to achieving AI outcomes (www.precisely.com [4]) (www.precisely.com [5]). The implication for executives is clear: a significant number of organisations are engaging with AI without the solid groundwork of accurate, well-governed data. This overestimation of readiness can lead to wasted investments and underwhelming results, as AI initiatives falter due to unaddressed data quality issues and fragmented data ownership.

References:

[1] www.cio.com — https://www.cio.com/article/4170978/nearly-every-enterprise-is-investing-in-ai-but-only-5-say-their-data-is-ready.html#:~:text=a%20new%20AI%20Momentum%20Survey,ready

[2] www.cio.com — https://www.cio.com/article/4170978/nearly-every-enterprise-is-investing-in-ai-but-only-5-say-their-data-is-ready.html#:~:text=match%20at%20L26%20reasons%2C%20including,Concerningly

[3] www.accenture.com — https://www.accenture.com/en/insights/ai-data/ai-ready-data#:~:text=rules%20of%20data%20for%20the,at%202%2C000%20companies%20in%2015

[4] www.precisely.com — https://www.precisely.com/press-release/fourth-annual-study-finds-ai-confidence-outpaces-readiness-as-data-integrity-gaps-persist/#:~:text=and%20data%20readiness%20%2843,divide%20between%20organizations%20with%20a

[5] www.precisely.com — https://www.precisely.com/press-release/fourth-annual-study-finds-ai-confidence-outpaces-readiness-as-data-integrity-gaps-persist/#:~:text=report%20having%20the%20necessary%20infrastructure,have%20actual%20metrics%20tied

Accountability and governance lag behind AI risks

The surge of autonomous AI and generative models is also testing corporate governance and data accountability, with regulators increasingly alarmed at the gap. In mid-October, **IBM released new research showing 80% of surveyed executives in Europe and the Middle East experienced an AI-related incident reaching their board level in the past year** (newsroom.ibm.com [1]). Yet only **40% of those organisations updated their AI governance policies** in response (newsroom.ibm.com [2]), revealing a troubling inertia in adapting risk controls. This suggests that many companies lack clear ownership and oversight for AI and data issues, even as such incidents - from model errors to data leaks or compliance breaches - become more common.

Regulators are moving to enforce stronger accountability. On 26 October, the UK's Financial Conduct Authority (FCA) reiterated that it expects financial firms to treat major **AI failures and 'near misses' like any other operational incident, reporting them for review and remediation** (www.theregister.com [3]). The FCA's Chief Data, Information and Intelligence Officer warned that **"poorly governed AI can create consumer harm, cyber vulnerabilities, and operational failures"**, urging that greater autonomy must come with clear responsibility (www.theregister.com [4]). Similarly, earlier this month the UK Information Commissioner's Office secured commitments from ten leading AI firms - including OpenAI, Google, Apple and Meta - to tighten their handling of personal data and be more transparent about how they use it (www.theregister.com [5]). For enterprise leaders, these signals mean that data

governance and stewardship cannot be an afterthought. Ensuring someone is accountable for the quality and ethical use of data is now essential to avoid regulatory penalties and to maintain trust when deploying AI at scale.

References:

[1] newsroom.ibm.com — https://newsroom.ibm.com/press-releases-artificial-intelligence#:~:text=Incidents%20to%20Board%20or%20C,Without%20Replacing%20a%20Single%20System
[2] newsroom.ibm.com — https://newsroom.ibm.com/press-releases-artificial-intelligence#:~:text=Incidents%20to%20Board%20or%20C,Without%20Replacing%20a%20Single%20System
[3] www.theregister.com — https://www.theregister.com/ai-and-ml/2026/10/20/uk-finance-watchdog-wants-firms-to-report-ai-failures-and-close-calls/5304078#:~:text=says%20firms%27%20incident%20reporting%20must,significant%20AI%20failures%20and%20near
[4] www.theregister.com — https://www.theregister.com/ai-and-ml/2026/10/20/uk-finance-watchdog-wants-firms-to-report-ai-failures-and-close-calls/5304078#:~:text=Bloomberg%27s%20UK%20Policy%20Series%20on,significant%20AI%20failures%20and%20near
[5] www.theregister.com — https://www.theregister.com/ai-and-ml/2026/10/08/ai-giants-promise-to-play-nice-with-personal-data-after-uk-watchdog-scrutiny/5301966#:~:text=the%20ICO%20isn%27t%20done%20asking,clearer%20explanations%20of%20how%20personal

Key Statistics

- 42% rise in US power-sector CO , emissions by 2030 from AI data centre projects (Sierra Club analysis)
- 79% of likely Texas voters want limits on new data centres (University of Houston survey)
- 5% of organisations say their data is fully prepared for AI projects (Dun & Bradstreet, 10,000-firm survey)
- 80% of EMEA executives had an AI incident reach their board in the past year (IBM survey)

KEY TAKEAWAY

Ensure your AI ambitions rest on solid data foundations. Audit data quality, governance, and infrastructure for AI projects, and plan for compliance and sustainability costs before scaling up.

Sources

New US Data Centers Projected to Emit More Carbon Than All of Mexico
https://www.claimsjournal.com/news/national/2026/10/29/340971.htm

Hobby School Survey: Texans Report High Levels of Concern Over Data Centers, AI
https://www.uh.edu/news-events/stories/2026/october/10272026-hobby-survey-data-centers-election.php

Nearly every enterprise is investing in AI, but only 5% say their data is ready (CIO.com)
https://www.cio.com/article/4170978/nearly-every-enterprise-is-investing-in-ai-but-only-5-say-their-data-is-ready.html

UK finance watchdog wants firms to report AI failures and close calls
https://www.theregister.com/ai-and-ml/2026/10/20/uk-finance-watchdog-wants-firms-to-report-ai-failures-and-close-calls/5304078

AI giants promise to play nice with personal data after UK watchdog scrutiny
https://www.theregister.com/ai-and-ml/2026/10/08/ai-giants-promise-to-play-nice-with-personal-data-after-uk-watchdog-scrutiny/5301966

CDO Insights 2026: The AI Trust Gap for CDOs – Informatica (press release)
https://www.informatica.com/content/dam/informatica-com/en/collateral/other/cdo-insights-2026-the-trust-paradox-and-the-data-governance-moment_infographic_5299en.pdf

AI Adoption Trends 2026: Trust, Data Quality & Governance Challenges (Informatica blog)
https://www.informatica.com/blogs/cdo-insights-2026-ai-adoption-accelerates-but-trust-and-governance-lag-behind.html

Data Priorities 2026: AI Adoption Exposes Gaps in Data Quality, Governance, and Literacy (Info-Tech report)
https://www.infotech.com/research/data-priorities-2026-ai-adoption-exposes-gaps-in-data-quality-governance-and-literacy-says-info-tech-research-group-in-new-report

AI-Ready Data for Advanced AI – Accenture (May 26, 2026)
https://www.accenture.com/en/insights/ai-data/ai-ready-data

Finance teams spend 26% of week fact-checking AI – 2026 CFO survey (CPA Practice Advisor)
https://www.cpapracticeadvisor.com/2026/10/07/fact-checking-ai-is-taking-up-more-of-cfos-and-finance-teams-time/191230/