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Greenwashing AI in Higher Ed: An environmental argument for universities' resistance to Big Tech

[version 1; peer review: 2 approved with reservations]

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Abstract

Higher education's ("Higher Ed") rushed embrace of commercial AI technologies has not allowed for sufficient reflection on their serious ecological consequences. This issue is complicated by Big Tech corporations becoming increasingly intertwined in university ecosystems while profiting enormously from AI expansion.

As a contribution to Open Research Europe's Universities for Sustainability collection, this essay explores universities' potential actions in response to AI's growing environmental harms, urging higher education institutions (HEIs) to resist Big Tech's encroachment into the sector. First, the paper outlines the increasing entanglements between universities and Big Tech. It then argues that these industry links deter comprehensive examinations of ethical issues related to AI technologies, particularly their ecological consequences. The essay subsequently explores universities' potential complicity in Big Tech's various greenwashing tactics, from shaping academic research agendas to spreading misleading claims of AI's climate benefits to resisting transparency in environmental reporting. Finally, the essay recounts strategies for university communities to push back against Big Tech and AI's growing environmental impacts, drawing upon the previous work and examples of critical scholars and activists.

Keywords

AI ethics, critical AI studies, greenwashing, Big Tech, EdTech, AI's environmental harms, sustainable AI, responsible AI, twin transitions

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This article is included in the Universities for Sustainability collection.

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Introduction

This essay contributes to Open Research Europe's Universities for Sustainability collection, a byproduct of an EU-funded research network[1] exploring the role of social sciences and the humanities in imagining and bringing about a sustainable future. Central to this mission is the question of how higher education institutions (HEIs) might conceptualize and implement healthier links between society, technology, and nature. As argued here, this task requires confronting the manner in which transnational technology corporations – particularly the "Big Tech" companies leading the artificial intelligence boom – contort societal narratives and research agendas to promote their commercial interests and subvert criticism of their immense environmental harms.

In Europe and beyond, intergovernmental institutions and HEIs are investing heavily in tech-driven climate solutions. The EU, in particular, has long fashioned itself as a global institutional leader in technology and sustainability, articulating Europe's imagined future in terms of two major societal transformations: the digital transition and the green transition. Popular rhetoric often frames the joint pursuit of these "twin transitions" as relatively straightforward. At the root of this imagined future is a persistent belief that what is *digital* is essentially *immaterial* – or at least preferable to the non-digital in terms of its environmental impacts. In recent years, however, the alarming ecological costs of state-of-the-art digital technologies such as AI are becoming increasingly harder to ignore.

AI is now widely considered to be the forefront of technological innovation, with AI attracting the lion's share of public-private investments in technological research and development (see Brennan et al., 2025). In the spirit of the twin transitions, many institutions and researchers have bought into AI's ability to bring about a sustainable future (see Cowls et al., 2023; Green AI Institute, 2025; Stern et al., 2025; UNFCCC, 2025). At the same time, critics note that AI's computational demands entail exorbitant energy consumption, resource-intensive hardware and infrastructures, and sprawling supply chains, all of which take a heavy toll on the environment (see Wright et al., 2023; Valdivia, 2024; Barratt and Gambarini, 2025; Bhardwaj et al., 2025). In response to these concerns, the EU's AI Act[2] – approved in May 2024 and implemented in August of the same year – calls for the establishment of clear guidelines for "assessing and minimising the impact of AI systems on environmental sustainability, including as regards energy-efficient programming and techniques for the efficient design, training and use of AI" (Regulation (EU) 2024/1689, Chapter X, Article 95). As detailed by Laranjeira de Pereira (2024), however, this tentative suggestion presented in the approved Act constitutes a major dilution of the more concrete and forceful standards contained in earlier drafts. Over the course of the EU legislative process, the stringency of the originally proposed requirements for AI providers to adhere to environmental regulations was softened to a much more modest set of disclosure-oriented guidelines (Laranjeira de Pereira, 2024).

The Act's disclosure guidelines also crucially fail to address the full lifecycles of the various infrastructures and devices associated with AI. Concerns over the incompleteness of reporting standards have prompted researchers to call for and propose methods for more robust assessments of AI's environmental impacts (Mulligan and Elaluf-Calderwood, 2022; Wright et al., 2023; Bhardwaj et al., 2025; Luccioni et al., 2025). Some optimistically assert a "structural turn" in AI ethics, where *structural* "denote [s] the idea that the appropriate level of analysis is not individual objects, but rather the structures in which these objects are embedded" (Bolte and van Wynsberghe, 2024, p. 4). These structural approaches rightly acknowledge the issue's complex socio-environmental reality, often emphasizing the need for far-reaching democratic involvement in order to curb the ecological harms of AI's global supply chains. Still, the most commonly proposed solutions in public discourse and policy circles continue to represent a narrow view of sustainability that serves powerful tech firms' interests.

The major players in the global AI landscape – namely, the Big Tech companies that own and operate key AI infrastructures, including Amazon, Google, and Microsoft – have long fashioned themselves as global leaders in sustainability. For one, AI allegedly enables more efficient resource consumption in addition to collecting and analyzing valuable climate data, and Big Tech is very active in developing such tools (Cowls et al., 2023; Google, 2024; Microsoft, 2024). Nonetheless, critics argue that the substantial environmental costs of these technologies eclipse these meager benefits (Wright et al., 2023; Bhardwaj et al., 2025; Luccioni et al., 2025; Joshi, 2026). Big Tech's sustainability claims have also elicited skepticism from external observers due to the industry's glaring conflict of interest (Bergman and Solomun, 2021; Temple, 2024; Vrikki, 2024; Rikap and Weko, 2025), with tech giants' sustainability reporting methods and practices drawing accusations of greenwashing (Vrikki, 2024; Joshi, 2026).

Greenwashing refers to "communication that misleads people into forming overly positive beliefs about an organization's environmental practices or products" (Lyon and Montgomery, 2015, p. 223). Successful greenwashing tactics quell

[1]COST Action CA21166 SHIFT: Social Sciences and Humanities for Transformation and Climate Resilience (https://shift-cost.eu/).
[2]https://artificialintelligenceact.eu/the-act/

public pressure for companies and organizations to adopt more effective practices to minimize their impacts on the environment. Scrutiny toward alleged greenwashing practices has targeted not only the private sector but also Higher Ed (Álvarez-García and Sureda-Negre, 2023; Lakhno, 2024).

Countless universities around the world have undertaken sustainability initiatives and enshrined sustainability as a core institutional value. However, critics are concerned that such pledges amount to careful curations of universities' public images instead of meaningful climate action, amounting to institutional greenwashing. While sustainability reporting among HEIs is now widespread, these unregulated disclosures are frequently lacking in comprehensiveness and critical depth, owing to structural incentives to avoid negative reputations regarding environmental impacts (Lakhno, 2024). Consequently, there has been little reflection on the sector's potential complicity in Big Tech's greenwashing strategies, as HEIs increasingly center AI in research, operations, and institutional strategies (Suarez Estrada et al., 2025; O'Neill, 2025). Social scientists and humanities scholars are well-positioned to scrutinize and untangle this conflict of interest, given the uniquely critical and interdisciplinary perspectives that arise from collaborations in these academic areas. This essay aims to demonstrate that such approaches are essential for universities to resist industry efforts to greenwash AI in Higher Ed.

First, this essay details how Higher Ed has increasingly come to reflect capitalist market logics and the priorities of the tech industry. Then, it illustrates the manner in which universities' entanglements with Big Tech severely constrain academic inquiries into AI ethics, with these industry links promoting a narrative of progress and inevitability with respect to AI's widespread expansion. This sense of inevitability lays the foundation for HEIs' complicity in Big Tech's greenwashing tactics. The essay then outlines tech giants' various tactics for greenwashing AI, from shaping academic research agendas to spreading misleading claims of AI's climate benefits to resisting transparency in their environmental reporting. Finally, the essay outlines several overarching strategies for resisting Big Tech's efforts to greenwash AI in Higher Ed as gathered from ongoing collective actions and prominent case studies in the sector.

Universities' increasing entanglements with Big Tech

Power in the AI industry is heavily concentrated among a small group of Big Tech corporations whose future prosperity depends on a massive uptake in AI use (see Brennan et al., 2025). The amount of capital expenditure dedicated to AI is indeed staggering: a recent report by the management consulting giant McKinsey estimates that nearly $7 trillion USD will need to be invested in scaling data centers worldwide in order to meet anticipated demand for AI-related computing capacity (McKinsey, 2025). Many of these investments in AI infrastructures are already well-underway (Chernicoff, 2025), but anticipated future demand for computing capacity for AI workloads is far from given. According to recent comments by Microsoft CEO Satya Nadella, far wider AI adoption is required in order to avoid a catastrophic market collapse due to the extent of tech giants' investments in these technologies (Heikkilä, 2026). Big Tech firms are therefore hell-bent on securing a future in which AI technologies are ubiquitous across society. The financial imperative to generate returns on these massive investments drives Big Tech's tremendous efforts to "lock in" future AI users via various strategic maneuverings, including heavy investments in AI startups (Widder and Kim, 2025) as well as institutional capture in vital sectors such as health and education (Whittaker, 2021). Internal documents made public as a result of an ongoing lawsuit against Google reveal that the tech giant explicitly views its foray into schools as a means of making lifelong users out of students (Kingkade, 2026). Political and economic conditions have made universities particularly prone to this sort of institutional capture.

Big Tech's infiltration of Higher Ed coincides with an intensification of the historically steady decline in public funding for universities. HEIs' forced adaptation to post-2008 austerity politics has led to increasingly top-down institutional management and more business-like funding models (Ginsberg, 2011; Newfield, 2011), recasting Higher Ed as a "private investment rather than a public good" (Giroux, 2017, p. 186). This trend has presented opportunities for Big Tech firms to sell a variety of digital services and platforms to HEIs under the guise of promoting efficiency and cutting costs (Williamson et al., 2024). Countries in which Higher Ed reflects a high degree of commoditization – the United States, the United Kingdom, the Netherlands, though also many individual high-ranking universities around the world – are more likely to shift their computational demands to cloud providers (Fiebig et al., 2023). Higher Ed's embrace of Big Tech's cloud services allows for more agile and cost-effective computing at the expense of HEIs' digital sovereignty (Angeli et al., 2022; Fiebig et al., 2023; Williamson, 2023).

In return, users of Big Tech's educational platforms also provide sources of monetizable data. Google's use of data collected from students to improve its targeted advertising services has triggered legal action from the education sector, and Meta's educational services are similarly intertwined with its digital advertising ecosystem (Hasan and Fritz, 2022, p. 246). The increasing privatization of Higher Ed therefore presents lucrative new revenue streams for tech firms offering technological fixes in the form of "EdTech" to a beleaguered education sector (Komljenovic et al., 2023). Amid

diminished funding and deteriorating public support for HEIs, the private sector's "techno-solutionism" presents itself to university administrators as an increasingly attractive strategy that becomes reinforced with "each successive wave of emerging technology" (Selwyn, 2023, p. 76). These political and economic realities are indispensable for contextualizing universities' rush to adopt AI.

Tech companies assert that AI chatbots such as ChatGPT Edu (OpenAI), Copilot (Microsoft), and LearnLM (Google) will bring individualized and optimized learning enhancements, presenting these digital services as straightforward solutions to the service gaps left by insufficient public funding for HEIs (Monett and Paquet, 2025, p. 7). It is therefore hardly a surprise that many HEIs have solidified close partnerships with AI providers in recent years. At the time of writing, OpenAI currently provides institutional access to ChatGPT for the entire California State University system, the University of Texas at Austin, the University of Oxford, and many more HEIs in the Anglosphere and beyond (Kant, 2025). The second Trump administration's dismantling of traditionally stable funding mechanisms for US Higher Ed has further opened the door to private tech enterprises' takeover of research institutes and university agendas, restructuring these institutions to prioritize and accelerate AI adoption (Raden, 2025). These developments affirm AI as a gravitational force capable of bending and distorting educational institutions' goals and priorities, in contrast to the popular sentiment that AI merely serves as a "tool" for educators to leverage (Laba, 2025).

Social histories of technology cast doubt onto claims that AI will simply enhance rather than alter or erode educators' essential functions; it has been repeatedly observed that the introduction of powerful new technologies into labor practices inevitably transforms the nature of the labor itself (Sparrow and Flenady, 2025). Early investigations of AI use in educational settings reveal that, rather than unilaterally augmenting educators' abilities, AI technologies frequently create additional work and introduce new complications. Interviews with dozens of educators in Australia and Sweden reveal an inordinate amount of time spent tending to the deficiencies of AI output and rearranging work patterns to accommodate AI use, with the researchers' analyses ruling out ineffective prompting techniques as a source of these additional burdens (Selwyn et al., 2025; Ljungqvist et al., 2026).

It is no surprise that critiques of the negative impacts of AI on labor in Higher Ed are growing in frequency and intensity. A March 2026 article from *The Guardian* describes faculty's deteriorating working conditions and growing woes in light of AI's increasing presence in university classrooms (Speri, 2026), while a February 2026 *New York Times* opinion column bluntly states that "A.I. Companies Are Eating Higher Education" (Connelly, 2026). These critiques frequently underscore the direct competition between AI investments and other funding priorities vying for increasingly scarce resources in the sector. As Sparrow and Flenady (2025) argue, pervasive claims of generative AI's potential to "fix" or even "revolutionize" Higher Ed quietly foreclose alternative pathways that are politically contentious yet likely much more effective. The AI Now Institute likewise observes that institutions' rush to implement AI in classroom settings "serves to divert funding and attention away from the kinds of investments that are most meaningful to students, like smaller classroom sizes and good facilities" (Brennan et al., 2025, p. 56). Similarly, the American Association of University Professors connects institutions' attempts to impose AI onto faculty members to their deteriorating working conditions, arguing that these technologies present false solutions to deeper structural issues related to diminishing financial support for HEIs (AAUP, 2025). The allure of techno-solutionism remains more palatable to the cost-cutting, business-like governance models of modern universities (Selwyn, 2023).

With the increasing precarity and mounting pressures of university faculty positions (Kezar et al., 2019), academics also face pressure to adopt AI in their core functions, including the production of knowledge. AI-generated submissions to academic journals and conferences have skyrocketed (Down, 2025), a trend that undoubtedly connects to growing pressure to publish and diminishing time and resource allocations for research (Simms, 2025). Narrowing time constraints are also likely to contribute to the rise in what Berry (2025) terms *scholarslop*, referring to low-quality, AI-generated teaching and administrative materials. It is plain to see how such developments threaten to erode the quality of HEIs' core functions.

Uncritical acceptance of AI's overhyped capabilities has also led to disastrous outcomes in student experience. Like other Big Tech firms, Google has trumpeted its digital "AI-augmented textbooks" as tools to enable personalized learning experiences and overcome the static and generalized nature of conventional textbooks (LearnLM Team et al., 2025). The real-world implementation of such tools has proven catastrophic. When thousands of South Korean schools introduced AI textbooks as part of a state-led educational transformation in March 2025, the initiative was swiftly halted after widespread reports of egregious inaccuracies, privacy violations, technical issues, and additional burdens to teacher workloads (Kwon, 2025). A recent report from the Center for Democracy and Technology likewise documents the serious harms to students posed by AI adoption in education, including increased privacy risks and amplified harassment online (Laird et al.,2025). Overreliance on AI also contributes to students' general disillusionment with the education

system; (Hartzog and Silbey 2026) cite Northeastern University's replacement of instructors with AI as a cautionary tale of the irreparable damage to student trust brought about by AI's dominance in learning environments (p. 29). And none of these examples reflects the more existential threat to education that AI poses – namely, the cognitive offloading facilitated by AI use and the subsequent deteriorating effects on student development in writing and critical thinking (Gerlich, 2025; Guest et al., 2025; Warner, 2025). These developments raise legitimate concerns as to whether the "so-called revolution of AI in education might be nothing more than the gradual loss of what it means to teach and what it means to learn" (Monett and Paquet, 2025, p. 6). Still, among the various issues with AI's intrusion into the education sector, corporate influence on HEIs' approach to AI ethics is perhaps most urgently in need of critical reflection.

Industry influence on AI ethics

AI's harms and risks have not been entirely ignored in the mainstream, as attempts to mitigate the technologies' potential downsides are increasingly implemented into faculty training and curriculum development. Such concerns have spurred the popularization of *AI literacy* – a skills development paradigm that aims to instill in users a sufficient understanding of the technology's potentials and limitations, thereby enabling them to use AI in a purportedly responsible manner. The concept has endowed Higher Ed's AI optimism with a renewed sense of responsibility and informed a wave of how-to guides for educators. One such volume is (Bowen and Watson's 2025) *Teaching with AI: A Practical Guide to a New Era of Human Learning*, which, according to Crano (2025), "deceptively let [s] dubious marketing slogans stand in for sober assessment … and mistake [s] the most vapid remarks of Big Tech CEOs for gospel truth" (para. 3). It is a harsh yet necessary assessment that draws attention to the too-often superficial notions of what constitutes responsible AI use.

Numerous other critics have chastised AI literacy as a vague category that fails to confront the more insidious and complex harms wrought by the AI industry. A recent community-authored paper demonstrates broad dissatisfaction with popular conceptions of AI literacy that fail to question the commercial incentives driving and shaping AI use in educational settings (Holmes et al., 2025). Multi-faceted critiques of AI's political economy are essential for formulating a *critical AI literacy* that moves "beyond technical competence to enable critical reflection on AI's social, ethical, and political dimensions" (Holmes et al., 2025, p. 14). The "rhetoric of inevitability" regarding AI's place in the future of Higher Ed preempts these vital reflections (Guersenzvaig and Monett, 2026, p. 4).

An appropriately critical approach requires fundamental questions as to whether AI's various benefits and use cases actually justify its diverse and far-reaching costs, as well as how these benefits and costs might be unfairly distributed among different groups. Such questions must necessarily be addressed on a structural or collective level. However, these lines of inquiry are often foreclosed by institutions and firms preemptively constraining notions of ethical and responsible AI use to the end user's engagement with these technologies. Guersenzvaig and Monett (2026) illustrate the manner in which popular conceptions of responsible AI use among HEIs exemplify this fallacy, which they term "Responsible Realism":

> At its simplest, Responsible Realism embodies a paradox. On the one hand, an institution or a person, against a backdrop of technological determinism and inevitability, acknowledges the risks and shortcomings of AI systems. And, simultaneously, on the other, it encourages responsible adoption and use while delegating ethical responsibility to individual end users, eschewing systemic and structural issues, as well as collective responsibility. (Guersenzvaig and Monett, 2026, pp. 2-3)

This doctrine affords its adherents a certain plausible deniability by encouraging individual users merely to recognize AI's harms and react (or not) to them on an individual basis. In this manner, Responsible Realism effectively deters meaningful collective action and organized resistance to the AI industry's agenda. By uncritically adopting this stance, universities compromise their position as independent research bodies capable of critical oversight, "becom [ing], at best, unintentional allies of technological corporations" and therefore unwitting proponents of their commercial interests (Guersenzvaig and Monett, 2026, p. 7). But in addition to any perceived moral responsibility to challenge AI's inevitability, techno-determinist narratives that insist on AI's power to accelerate economic productivity also run counter to recent findings on the effectiveness of its real-world deployment.

There is a widespread sentiment among HEIs that AI-related skills are – or will soon be – indispensable to students' future employability, such that AI literacy appears to be a practical necessity for modern university education. Here, too, reality runs counter to the mainstream narrative. An MIT research team recently found that a collective "$30–40 billion in enterprise investment into GenAI" across private businesses has dramatically faltered in its anticipated benefits, as "95% of organizations are getting zero return" (Challapally et al., 2025, p. 3). Other research suggests that AI may even be actively undermining worker productivity and the quality of work. A widely-circulated study from Niederhoffer et al. (2025) documents a nascent crisis in the proliferation of *workslop*, defined as "AI generated work content that masquerades as good work, but lacks the substance to meaningfully advance a given task" (para. 2). Workslop

perpetuates form without substance, shifting extra burdens onto workslop recipients and breeding resentment among colleagues (Niederhoffer et al., 2025; Liebscher et al., 2026). A March 2026 article in the *Wall Street Journal* similarly punctures the myth of AI-powered work efficiencies, compiling damning evidence from more than 150,000 workers' digital activity and showing that AI use consistently inflates the total time spent on nearly all work-related tasks (Smith, 2026). These realities undercut the supposed inevitability of an AI-powered future – a narrative which, above all, serves Big Tech's imperative to achieve near-universal AI adoption. Still, the AI industry's concentration of power ensures that initiatives to integrate AI into Higher Ed continue to align with these companies' interests.

By now, it is evident that Big Tech's technological infrastructures are indispensable to the development and operation of state-of-the-art AI applications. Costello and Gow (2025) insist that it is impossible to separate Big Tech's reign over the AI landscape from moral examinations of these technologies:

> Only the most powerful companies on the planet can afford the materials to build Large Language Model technology, such as chips, compute power, cloud infrastructure and legal teams to fight the owners of the data taken to train the models. Indeed, there does not appear to be, thus far, any legal or ethical ways to build GenAI technologies as they are currently understood. (Costello and Gow, 2025, p. 3)

The cost of the enormous computational resources involved constitutes a major barrier to entry for AI research and development, creating a massive divide between transnational tech companies and elite, industry-aligned universities on the one hand and lower-tier academic institutions on the other (Ahmed and Wahed, 2020; Abdalla and Abdalla, 2021). In fact, Big Tech companies' investments in research and development rival and in many cases eclipse those of EU member states (European Commission, 2024, p. 14). This stark imbalance makes Big Tech a crucial source of funding for AI research, giving these firms tremendous power to set research agendas and shape debates over AI ethics.

As Fiebig et al. (2023, p. 127) note, numerous critics have sounded the alarm over Google's perceived interference in academic research via direct funding mechanisms. (Abdalla and Abdalla 2021) reveal that a staggering proportion of AI ethicists at top research universities hold financial and/or professional ties to industry giants, also noting that investigative reporting has uncovered numerous accounts of corporate meddling in academic research on AI ethics. The researchers conclude that "there is evidence that the types of questions being asked, the types of projects being funded, and the types of answers being provided are influenced by Big Tech" (Abdalla and Abdalla, 2021, p. 5). The decline of public research funding only serves to reinforce industry influence as the primary force shaping academic research and inquiries on AI and AI ethics (Varma, 2026). It is therefore no surprise that industry influence is shaping the growing body of work concerning AI and the environment, as universities may be both directly and indirectly implicated in Big Tech's greenwashing strategies.

Despite HEIs' broad commitments to environmental sustainability, the ecological consequences of EdTech are rarely considered – a trend made even more concerning given the sector's growing embrace of resource-intensive AI technologies (O'Neill, 2025). This oversight is perhaps best exemplified in Ireland, where Big Tech maintains close ties to HEIs and drives the rapid buildout of fossil-powered AI data centers, and where reporting protocols dictate that HEIs and tech companies must disclose only part of their environmental impacts (O'Neill, 2025, p. 6). This state of affairs must be understood in terms of the material dimensions of the AI industry's expansionary impetus. As explored in the following section, Big Tech has been methodical in greenwashing AI's environmental impacts. By failing to confront Big Tech's greenwashing practices, universities may be understood "not just as passive consumers of EdTech, but as complicit actors in environmental destruction" (O'Neill, 2025, p. 8). Undoing this complicity first requires understanding the specific greenwashing strategies deployed by tech giants.

Greenwashing tactics among Big Tech firms

Big Tech's greenwashing tactics generally involve exaggerated assertions of AI's potential for supporting climate solutions as well as attempts to conceal or downplay AI's associated ecological costs. As with other strands of AI ethics research, climate-focused research agendas among HEIs seem to be significantly influenced by the tech industry.

Corporate-sponsored research institutions broadly frame the climate crisis as a technical problem for which AI provides a convenient technological solution – one whose transformative potential will surely outweigh any temporary ecological costs (see Stern et al., 2025). For example, Silicon Valley has long been intimately connected with nearby Stanford University. The university's Doerr School of Sustainability was founded in 2022 thanks to a $1.1 billion contribution from John Doerr, a former Intel employee turned venture capitalist with close ties to Big Tech (*Stanford Report*, 2022). The School's AI-heavy research agenda arguably replicates a similar conflict of interest shown in the institution's earlier acceptance of fossil fuel companies' donations, which drew widespread ire from faculty and students due to the industry's

history of blatant greenwashing (Berlin Rubin et al., 2022). Several other prominent examples reflect potential corporate interference in HEIs' research agendas. The Alan Turing Institute[3], a research conglomerate involving numerous UK universities and partnered with several tech giants, places a strong emphasis on AI climate solutions (Alan Turing Institute, 2026). Harvard's Green AI Institute[4] embodies an explicitly AI-centric approach to the climate crisis, having hosted events featuring speakers from the tech industry and adopted a highly credulous stance toward Big Tech's sustainability practices (see Green AI Institute, 2025). While research from these bodies may acknowledge AI's significant environmental harms, a core theme of these initiatives is their general attitude that AI's (projected) benefits in enhancing sustainability outweigh its costs. Bill Gates – the climate-conscious, billionaire tech evangelist – famously claimed that AI's carbon emissions would be erased by AI-enabled carbon efficiency across energy grids (Ambrose and Hern, 2024). However, this techno-optimistic reality remains purely speculative, and such claims often rely upon sleight-of-hand justifications.

Climate analyst Ketan Joshi (2026) expertly documents the highly misleading nature of Big Tech's assertions of AI's climate benefits. The central misdirection relies on the distinction between "traditional AI" and "generative AI" – the latter of which is the culprit behind the explosion in commercial AI infrastructures and far more energy-intensive. The overwhelming majority of claims pertaining to AI's climate benefits apply only to *traditional* (i.e., task-specific) AI; whether or not these benefits are legitimate, these tech-driven efficiencies are "unrelated to – and dwarfed by – the massive expansion of energy use from the generative AI industry" (Joshi, 2026, p. 4). Joshi's study further reveals that assertions of AI's potential for enhancing sustainability are broadly unsubstantiated. Out of the 154 claims scrutinized, only 26% cited peer-reviewed academic research, whereas a slightly higher percentage (29%) cited other questionable corporate materials, and 36% did not cite any evidence whatsoever (Joshi, 2026, p. 16). This greenwashing strategy follows a history of creative accounting practices that portray tech giants as sustainable on paper yet do little to alleviate their actual environmental impacts.

For the previous two decades, Big Tech's central strategy for curating public perception of their environmental sustainability has been a controversial practice called carbon offsetting (Temple, 2024). Carbon offsets are investments in environmental conservation or renewable energy generation; these offsets ostensibly negate a firm's carbon emissions by removing or preventing a commensurate amount of future atmospheric carbon. Tech companies are among the biggest purchasers of carbon offsets on the planet (Jessop et al., 2025). Google boasts that in 2017 it "became the first major company to match 100% of [its] annual electricity consumption on a global basis with renewable energy" (Google, 2024, p. 3), with other tech giants such as Meta and Microsoft not far behind (Patterson et al., 2022, p. 24). Nevertheless, numerous independent studies cast serious doubt on the efficacy of carbon offsetting projects.

Many researchers and independent investigations have concluded that very few of the carbon offsets purchased by polluting firms are truly responsible for generating additional renewable energy or averting future emissions, despite claims made on paper (West et al., 2020; Calel et al., 2021; Greenfield, 2023). Offsetting's foundational premise also deserves scrutiny: carbon offsets are frequently tied to projects located in different regions and operating on much different timescales than the original emissions that the purchaser intends to offset (Temple, 2024). This discrepancy raises the question as to whether carbon offsetting and similar market-based practices contribute to actual emissions reductions or merely convey the false impression of a firm's environmental neutrality (Vrikki, 2024).

In response to such criticism, Google, Microsoft, and other tech companies have turned toward implementing time- and location-based matching into their carbon offsetting schemes, promising to match all carbon emissions across their direct operations to renewable energy purchases in the same hour and regional energy grid (Google, 2024; Microsoft, 2024). However, critical observers note that this shift still fails to ensure that these purchases will spur the generation of *additional* renewable energy that would otherwise not have been available (Bryan et al., 2024; Temple, 2024). More crucially, this paradigm fails to reduce carbon emitted across the company's sprawling network of suppliers (i.e., indirect operations), which make up the majority of Big Tech's aggregate carbon footprint (STAND.earth, 2023, p. 20). Big Tech firms profess to maintain the highest possible standards in calculating and minimizing carbon these "indirect emissions" generated by their suppliers; however, such claims are unable to be independently verified due to the voluntary, non-uniform nature of reporting protocols and the severe lack of transparency in companies' supply chains (STAND.earth, 2023; Vrikki, 2024).

There is further reason to be skeptical of Big Tech's self-reported figures: a 2024 investigative report by *The Guardian* estimated that the emissions of data centers operated by Apple, Google, Meta, and Microsoft may be 662% higher than the

[3]https://www.turing.ac.uk/
[4]https://www.greenai.institute/

companies report (O'Brien, 2024). Big Tech firms have also spent significant resources lobbying for more favorable measurement protocols and diminished oversight in their emissions reporting (Bryan et al., 2024). A recently published investigative report led by Investigate Europe reveals the shocking extent to which Big Tech lobbyists dismantled transparency measures in the EU AI Act's original draft, with the final legislation containing language nearly identical to the industry's proposed revisions – a virtually unprecedented intervention in EU legislation (Schmidt and Joyner, 2026). It is clear that the current state of affairs enables Big Tech firms to withhold vital information and decision-making power from the public. Their monopolistic rule over the AI landscape allows them to construct a favorable narrative that frames AI's ecological impacts as an engineering problem rather than a contestable allocation of resources and costs.

Even as Big Tech firms are constantly working to improve AI models' carbon efficiency, there is little reason to believe that firms' efficiency-focused engineering solutions will adequately address AI's overall impact on the environment. For instance, the title of a 2022 paper published by Google researchers insists that "The Carbon Footprint of Machine Learning Training Will Plateau, Then Shrink" (Patterson et al., 2022), yet the work offers little justification for this bold prediction aside from a meager list of best practices for developers. Moreover, technical improvements to the carbon efficiency of AI model training fail to address the much more complex realities of AI's overall environmental impacts. Training emissions are often dwarfed by the aggregate emissions of model use (inference) as well as tech companies' indirect supplier emissions (Bhardwaj et al., 2025, p. 5). Moreover, the improved efficiency of AI models and data centers appears to be lowering the barrier to entry and therefore causing a massive uptick in the adoption of AI technologies across society. As such, the aggregate carbon emissions of AI's increasing use across society seem to outweigh any benefits of improved model efficiency (Wright et al., 2023; Bhardwaj et al., 2025; Luccioni et al., 2025).

Water consumption is another major factor in AI's environmental footprint. Data centers' hardware is prone to overheating due to the magnitude and intensity of the machine processes needed to operate highly computationally-intensive AI models. The most common cooling method is the use of water towers, which consume potable freshwater and release heat through evaporation (Mytton, 2021). Concern over data centers' excessive water consumption has led Big Tech companies to search for ways of reducing their rapidly expanding water footprints. Crediting a number of key engineering innovations, Microsoft reports a significant decrease in its total water consumption compared to its 2022 and 2023 levels, consuming an estimated 5,807,000 cubic meters of water in 2024 (Microsoft, 2024). In terms of the global water availability, data centers' cumulative water consumption is admittedly very small (Kwet, 2024, p. 116); however, the highly localized consequences of AI's water consumption are often acute.

Much like carbon offsetting, Big Tech companies also profess to counteract the adverse effects of their water consumption by investing in water conservation and replenishment projects, with Google and Microsoft even pledging to become "water positive" by 2030 despite taking water from some of the world's driest regions (Barratt and Gambarini, 2025). But these claims similarly rest on dubious equivalences applying convenient abstractions to represent complex ecological processes, generally ignoring the time- and location-dependent nature of water's deeply complex role in local ecologies (World Wildlife Fund, 2022). As such, corporate-led replenishment efforts do not necessarily ensure that water is made accessible in the time and place that people need it the most.

Furthermore, AI's water consumption extends far beyond data centers' cooling methods. Water is consumed in many of the technologies' *a priori* processes, including electricity generation for a variety of energy sources (Mytton, 2021) as well as mining rare minerals used in data centers and user devices, which bring in addition to the overconsumption of water bring numerous other socio-environmental harms (Wright et al., 2023, pp. 11–12). In many regional contexts, indirect water consumption outweighs data centers' direct water consumption (Farfan and Lohrmann, 2023).

Rising demand for AI services intensifies all of these extractive processes. For instance, data centers' AI-related electricity usage is projected to increase significantly in the coming years given current trends and committed investments (see O'Donnell and Crownhart, 2025). This prediction is not merely a reflection of organic consumer demand but rather exceedingly powerful economic forces: Big Tech's collective investments in data centers recently surpassed one trillion USD, with the companies betting on enormous increases in the global use of AI models (Chernicoff, 2025). In order to generate returns on these staggering investments, tech companies must impose a future in which AI models are implemented and queried on an enormous scale, regardless of whether these technologies contribute meaningful social benefits.

The AI industry's economic imperative to expand at all costs stands in direct opposition to any critical perspectives that might question whether AI's social benefits justify its collective costs in the first instance. As with other monopoly powers in global capitalism, Big Tech sustains its market dominance by ensuring that the true costs of its operations remain *externalities* – that is, by maintaining an economic arrangement in which the burden of these myriad costs, whether social or ecological, is shifted elsewhere (see Brodie, 2023). Recent scholarship has argued that the Global South bears most of the harms of AI production chains (Benyera, 2021; Howson et al., 2023; Valdivia, 2024).

It is undeniable that Big Tech's political and economic hegemony plays a massive role in directing the modern global economy. A report commissioned by the EU Commission acknowledges that the conglomerate of tech giants has "emerged directly as well as indirectly as the most powerful 'influencer' of production and consumption relations" in the 21st century (European Commission, 2024, p. 40). Big Tech firms such as Google and Amazon enjoy tremendous political influence and globe-spanning information monopolies, allowing them to shape and direct the twin transitions in a manner that best suits their strategies of accumulation and power consolidation (Rikap and Weko, 2025). These observations have led critics to argue for identifying and dismantling the "concrete mechanisms used by Big Tech and other corporations to systematically extract data, knowledge, value, and nature for their own ends" (Rikap et al., 2024, p. 16). To this end, HEIs must reassert institutional independence and counterbalance the tech industry's concentrated power, particularly in the largely unimpeded expansion of AI and its mounting ecological consequences.

The role of universities in resisting AI's planetary harms

How might universities reject Big Tech's inherent conflict of interest and confront AI's planetary harms? As argued above, Higher Ed's neoliberal funding schemes and close ties with Big Tech inhibit critical approaches and counter-narratives regarding AI. For HEIs to recenter the collective social good, educators must appreciate technology not as a natural byproduct of progress but as a site of active power struggles, particularly against commercial interests (see Brennan et al., 2025, Ch. 4). This focus on challenging the influence of private industry has been notably absent from popular conceptualizations of the university as a vehicle for advancing climate justice (Stephens, 2024). HEIs' tacit endorsement of Big Tech's attempts to greenwash AI stems from the sector's general acquiescence to corporate influence.

In absence of any countervailing forces, tech giants such as Amazon, Google, Meta, and Microsoft exercise massive influence over quantifying, disclosing, and framing the ecological consequences of AI. Big Tech's concentration of power emboldens widespread greenwashing, as commercial AI services become more and more entrenched in an education sector sold on an AI-powered future. An air of inevitability clouds Higher Ed's current perception of AI and preempts more fundamental questions about whether AI is necessary and whether its ecological costs are justifiable, even as the extent of these costs remains obscure. Structural entanglements between the education sector and the AI industry therefore encourage HEIs' complicity in Big Tech's greenwashing tactics.

Nevertheless, there are already numerous efforts underway to challenge Big Tech's hegemony in education and beyond. This section outlines several overarching strategies for resisting AI greenwashing in the education sector, drawing from real-world case studies and ongoing collective actions.

Pursue community-led tech infrastructures

The computational requirements needed to develop and operate state-of-the-art AI models present massive barriers to entry for the AI field. As a result, universities are heavily reliant on Big Tech's profit-oriented cloud infrastructures in order to research and use AI technologies. Many commentators have called for the development of alternative computing infrastructures on the grounds that this reliance on Big Tech compromises states' so-called digital sovereignty, which encompasses ideals such as data privacy and geopolitical security (Sheikh, 2022). This task has proven enormously difficult. The EU's concerted efforts to achieve some semblance of digital sovereignty have generally fallen short in the face of US- and China-based cloud providers' global dominance (Blancato, 2024; Baur, 2025; Lehuedé, 2024). Although the private sector continues to dominate the AI landscape, there are several noteworthy examples of high-capacity, publicly owned computing facilities operating in close collaboration with universities.

The Norwegian Research Infrastructure Services (NRIS) is a collaboration between the Sigma2 – a non-profit digital infrastructure provider – and four Norwegian universities that provides "national e-infrastructure for computational science in Norway, and offers services in high-performance computing (supercomputing) and large-scale data storage for research and educational purposes" (Sigma2, 2025a). Gradually rolled out over the course of 2025, Norway's "Olivia" is the country's next-generation supercomputer for state-of-the-art research in AI development, designed in a manner that "combines exceptional performance with energy efficiency" and reported to emit 30% less carbon than its predecessor (Sigma2, 2025b). Established in 2005, the Barcelona Supercomputing Center-Centro Nacional de Supercomputación[5] (BSC-CNS) provides immensely powerful computing resources for publicly-funded research initiatives in Spain. The Center lists "respect [for] people, the community, and the environment" among its core values (Barcelona Supercomputing Center-Centro Nacional de Supercomputación, n.d.). More broadly, the EU has recently pledged massive investments in AI-focused computing facilities (see Brennan et al., 2025, p. 31). These public investments in AI infrastructures provide valuable examples of the feasible alternatives to Big Tech infrastructures. However, they also

[5]https://www.bsc.es/

risk replicating the same expansionary logics as commercial providers, amplifying AI's environmental tolls while nominally pledging to reduce these harms.

Computing facilities represent just a single node (albeit a crucial one) in AI's supply chain. In procuring rare minerals and other materials needed for AI hardware, for example, the construction of EU-based data centers frequently shifts environmental burdens onto the Global South, perhaps also tacitly endorsing severe labor violations (Sheikh, 2022, p. 22). State-led initiatives to promote digital sovereignty by investing in digital infrastructures, such as those in Europe and China, have also contributed to the increased extraction of raw materials and environmental harms (Lehuedé, 2024). The enormous amounts of capital required for developing these infrastructures leaves these projects vulnerable to being co-opted by more prosperous private firms, uninhibited by contentious political processes and competing public funding needs. Spearheaded by France and Germany in 2019, Gaia-X began as a non-profit infrastructural project to promote EU-wide digital sovereignty and lessen reliance on Big Tech infrastructures; however, it was not long before Gaia-X invited participation from US and Chinese tech giants (Lehuedé, 2024; Baur, 2025). Alternative infrastructures therefore still require close scrutiny in terms of their potential for improving upon commercial AI providers' ecological impacts. Public- or community-owned computing facilities may provide effective alternatives for bypassing commercial providers' greenwashing incentives, yet this environmentally-conscious orientation is far from given. As argued by Tréguer (2026), the pursuit of digital sovereignty often replicates the expansionary nature of the AI "arms race" and fails to curb the environmental harms of AI expansion. Universities cannot confront AI's planetary costs by merely demanding alternative tech infrastructures in the name of digital sovereignty; HEIs must take a much more active role in contributing to broader societal transformations that reckon with AI's full material consequences.

Several recent works put forth particularly useful visions of a digital landscape oriented toward the public good. The Democratic and Ecological Digital Sovereignty (DEDS) coalition lays out such a vision in their report *Reclaiming Digital Sovereignty: A roadmap to build a digital stack for people and the planet* (Rikap et al., 2024). The authors call for international cooperation in the "provision of a universal public option of open-access, nonprofit digital services" on the basis that "any technology that puts people, the planet, and democracy first requires that private economic gains take the back seat" (Rikap et al., 2024, p. 8). The environmental justice organization Sursiendo and technology cooperative May First similarly call for grassroots, community-led approaches to the governance of technological infrastructures in their joint 2025 report *Actions for Environmental Justice: From Autonomous and Community Based Technological Infrastructures.* The report includes interviews concerning small-scale projects to develop alternative tech infrastructures, offering numerous examples of "community-based, non-extractive practices in an atmosphere that is largely dominated by big corporate monopolies" (Sursiendo and May First, 2025, p. 71). While the report covers a geographically diverse range of projects, many of its case studies focus on Latin America, which is emerging as a crucial geopolitical landscape for alternative tech infrastructures.

Lehuedé (2024) discusses the environmentally conscious notion of digital sovereignty emerging in Latin America and its sensitivity to "the extraction of raw resources required to build technologies and the capacity of communities and groups to establish models of development and governance that align with the values of local communities" (p. 10). Unlike in the US, the EU, or China, digital sovereignty in Latin America is primarily conceptualized and pursued by civil society organizations instead of corporate or state-aligned actors, allowing for greater democratic control (Lehuedé, 2024). Still, other examples demonstrate that community-led infrastructures may still emerge in areas where corporate powers typically own and control tech infrastructures. In *Radical Infrastructure: Imagining the Internet from the Ground Up* (2026), Britt Paris argues that successful regional projects – such as the People's Rural Telephone Cooperative, a Kentucky-based internet provider – testify to the feasibility of alternative tech infrastructures organized around collective control and public benefit, even in the United States' corporate-dominated tech landscape. These successes may encourage people in diverse geopolitical contexts to "think about infrastructural endeavors in a relationship of environmental solidarity, or mutual well-being both with the land and with one another that is in our best interest to uphold" (Paris, 2026, p. 232). Universities may deliberately seek out and provide research and funding support for such projects. Moreover, several examples from HEIs also offer useful precedents for more environmentally-conscious computing practices.

O'Neill (2025) lists several measures that certain HEIs have taken to reduce environmental harms associated with computing, including self-hosting digital services (as opposed to relying on third-party cloud computing), converting would-be e-waste into functional data servers, and even creating 100% solar-powered websites (pp. 7–8). These cases reflect academics' concerted efforts to develop alternatives to the extractive logic of commercial tech infrastructures. The annual "Computing Within Limits[6]" workshop, for example, is based on a recognition of the irresolvable tension between

[6]https://computingwithinlimits.org

Big Tech's growth-based business model and the finitude of planetary resources (see de Valk, 2021). Universities may divert resources away from commercial AI services and offer vital support alternative, environmentally-conscious tech infrastructures.

Identify and engage contested sites across global AI supply chains

As emphasized above, AI's ecological impacts must be appreciated across the entirety of its complex global supply chains, which encompass closely intertwined forms of production and consumption. A comprehensive examination of AI's environmental impacts must also account for the power relations that shape Global North-South trade, as well as the confluence of social, economic, and cultural forces that elevate the priorities of a select group of immensely powerful producers over the needs of the many. Despite energetic claims of AI's transformative potential for disadvantaged communities, many critics argue that the current AI landscape mainly serves the financial interests of a handful of Global North corporations while exploiting precarious labor, raw materials, and data from the Global South (Benyera, 2021; Howson et al., 2023; Medrado and Verdegem, 2024; Valdivia, 2024). HEIs must prioritize critical, independent research that asks who benefits the most from AI's expansion, who bears the costs, and where the tension between beneficiaries and cost-bearers leads to socio-environmental conflict.

Data centers are one of the most obvious sites for contesting AI's environmental impacts. There is growing resistance to the construction of new data centers around the world, with communities refusing to accept the consequences of the dramatic increases in energy and water consumption in their locales (Barakat et al., 2025). These conflicts reflect severe asymmetries in power and influence. In addition to cloud providers' tremendous economic and political influence, the mobility of capital poses a major challenge to efforts to resist the aggressive expansion of AI infrastructures. For example, when Dutch activists successfully deterred Meta from building a massive data center in their community over environmental concerns, the company simply relocated the planned facility to Spain, a country facing severe droughts (Jiménez Arandia, 2024). These complex socio-political realities call for critical input from international scholars working in the social sciences.

Critical data center studies is an emerging interdisciplinary field that considers data centers' material impacts and spatial configurations (Edwards et al., 2024). Such timely, critical work may prioritize engaged forms of research. For instance, social scientists may work with local communities to probe institutional and societal barriers to adequate transparency regarding the environmental costs of planned and operational data centers. Previous cases suggest that art may also play an important role in building local support for protesting data centers on environmental grounds, as demonstrated by community activists in Cerrillos, Chile (Ramírez, 2023). As these examples show, contributions from the arts, humanities, and social sciences are crucial components in challenging the AI industry's aggressively extractive pursuits.

Medrado and Verdegem (2024) advocate for the application of participatory action research (PAR) in AI ethics, drawing upon their experience conducting collaborative workshops and dialogues with activists, tech workers, and students. A research tradition with roots in Latin America, PAR may inform critical approaches to AI that "stem from the realities of those who are precisely the most affected by extractive (digital) capitalism: marginalised groups in the Global South" (Medrado and Verdegem, 2024, p. 2). It is easy to envision how PAR methods could scrutinize environmental harms along the global AI supply chain, with Global South communities shouldering much of these burdens (Valdivia, 2024). Academic researchers must work alongside community activists to trace these harms to the explicitly social, cultural, and political arrangements that determine 1) who retains decision-making power over resource consumption for AI infrastructures, and 2) precisely how responsibility for these environmental costs is evaded and/or redistributed.

Furthermore, universities may host events that bring together academics and activists in the spirit of PAR and transnational solidarity. Hosted at Yale University in April 2026, the International Network on Digital Labor's symposium "Workers Building, Using, and Resisting AI[7]" explicitly sought to combine concerns over AI's exploitation of labor and the environment. Researchers may also spearhead efforts to build Global North-South solidarities among actors in disparate nodes of global AI supply chains by exploring opportunities and spaces for transnational collaboration, such as translating resources in support of community resistance to such extractive industry (Piñeiro and Riemland, 2024).

As alluded to previously, recognition of the highly relational and interconnected nature of AI supply chains' various resourcing activities is essential to confronting AI's ecological consequences. Rather than narrowly focusing on the operational environmental costs of data centers, for example, Global North-South partnerships can help shed light on the

[7]https://indl-na.sciencesconf.org/
[8]https://aiplanetaryjustice.com/

AI's *embodied* costs – costs associated with the extraction of raw materials as well as the manufacturing and disposal processes throughout hardware lifecycles (Mulligan and Elaluf-Calderwood, 2022; Attard-Frost and Widder, 2025). This perspective allows for a much fuller picture of AI's planetary harms. One particularly noteworthy network of activist-scholars pioneering work in this area is the AI + Planetary Justice Alliance[8], which underscores the need to assess the full extent of AI's supply chains in confronting its environmental tolls. In defiance of AI's exploitative of both labor and the environment, Ovetz and Weinberg (2026) urge Higher Ed workers to organize along the entire global supply chain of AI by supporting and collaborating with, for example, data annotators, such as the Global Trade Union Alliance of Content Moderators (pp. 129–130). These solidarities may serve as the basis for workers' inquiries that co-produce vital knowledge for revealing and resisting AI's social and environmental harms (Ovetz and Weinberg, 2026). In order to address AI's collective environmental impact, it is therefore imperative to facilitate transnational collaboration among international researchers and activists, particularly with Global South institutions and communities.

Opportunities for Higher Ed to engage the global AI supply chain need not be limited to engaged research practices. As consumers of data center services, university communities may also lead calls for greater transparency and accountability in these facilities' environmental impacts. Once again, a global scope is critical: HEIs in the EU, for instance, must look beyond Europe's energy grids, critically examining their key position within a deeply interconnected global AI market. What leverage do universities have to push for more transparency from data centers as well as other nodes across AI's full supply chain? How do universities contribute to the growing demand that fuels AI's increasing environmental costs? How do universities promote or reinforce flawed narratives that overlook core contradictions in the twin transitions?

Challenge AI's inevitability and Big Tech's encroachment in HEIs

HEIs may inhibit AI's ecological costs by challenging the inevitability of widespread AI adoption and resulting reliance on Big Tech infrastructures, as several prominent public campaigns have already done. An open petition imploring California's state university system not to renew its $17 million contract with OpenAI – finalized amid a massive wave of cuts to faculty positions and program offerings – has gathered well over 3,000 signatures to date (Kenney, 2026). The petition's accompanying letter lays out the numerous ways in which the university system's embrace of ChatGPT Edu is fundamentally at odds with the well-being of faculty and students, including its detrimental effects on faculty working conditions, students' mental health, and the general quality of education. In a similar case from June 2025, academics wrote an open letter to Dutch university executives denouncing the hasty adoption of commercial AI products in Higher Ed, citing environmental concerns among numerous other harms ("Open Letter", 2025). Joining international colleagues, the primary authors then argued more broadly against HEIs' "uncritical adoption" of AI and the sector's general capitulation to the tech industry, once again raising the issue of AI's ecological consequences (Guest et al., 2025). Public campaigns are made more effective by explicitly naming the conflict between universities' avowed commitments to sustainability and the increasingly well-documented environmental harms of AI.

There are also more conventional opportunities within university ecosystems to contest misguided assumptions implicit in HEIs' AI policies and guidelines, as described by Guersenzvaig and Monett (2026). The most consequential of these assumptions is the uncritical acceptance of AI's inevitability. Given Big Tech's concentration of power, resistance to AI's creeping intrusion into Higher Ed requires organizing faculty and students not just within but across and beyond universities. A stellar example comes from the November 2025 webinar organized by the Climate Justice Universities Union[9] entitled "Resisting GenAI & Big Tech in Higher Education", which brought together scholars and activists devising inventive ways of resisting AI. University-organized workshops may also further overtly critical approaches to AI technologies, such as the Cambridge Digital Humanities[10] research center's "Teaching and Learning Critically in an Age of Generative AI", centered around "ensur [ing] that our teaching and learning remain grounded in reality and alert to the ecological, social and educational implications of artificial intelligence systems" (Cambridge Digital Humanities, 2026). Radboud University's summer course "Critical AI Literacies for Resisting and Reclaiming" similarly aims to equip participants to challenge AI's social and environmental harms within the university context (Radboud University, 2026). Perhaps the most ambitious event in the spirit of AI resistance is the Berlin-based "Cables of Resistance" conference[11], gathering activists, academics, researchers, students, and many others unified in the common goal of resisting the social and environmental harms perpetuated by Big Tech. This sort of militant resistance is advocated by academic commentators such as McQuillan (2025) and Dusseau (2024), who both allude to the AI's severe environmental costs among numerous other concerns. Alongside environmental concerns, the devaluation of labor among university faculty is a common refrain among critics of AI in Higher Ed.

[9] https://climatejusticeuniversitiesunion.org/
[10] https://www.cdh.cam.ac.uk/
[11] https://cableresist.de

Labor organizing among HEI faculty presents the strongest and most well-established potential counterweight to this process of devaluation. Faculty unions may find creative ways to combine efforts to counteract Higher Ed's increasingly precarious labor conditions with environmental campaigns, as there is much room for greater combined advocacy in these two areas (see Crawford and Whyte, 2023). Emphasis on the tension between Higher Ed's rushed AI adoption and HEIs' sustainability commitments may provide faculty unions with greater bargaining power in labor negotiations. Some unions have already made AI an explicit focus in collective bargaining, highlighting concerns related to both labor and the environment.

In one noteworthy case, the Faculty Alliance of Miami challenged Miami University (Ohio) over the lack of faculty involvement in formulating the institution's AI policy (Faculty Alliance of Miami, 2024). Soon after, the union and university executives signed a memorandum of understanding outlining a path for any AI-related concerns to be included in future negotiations ("Memorandum", 2024). On the tail of the California State University system's contract with OpenAI, the California Faculty Association filed a formal complaint regarding the lack of faculty consultation and put forth a proposal for worker protections in using and/or refusing AI technologies, noting concerns over environmental impacts and other ethical issues (California Faculty Association, 2026). However, most of these efforts reflect a desire for faculty to merely collaborate on AI implementation and mitigate AI's effects on labor conditions, whereas more aggressive strategies may explicitly aspire to the collective refusal of commercial technologies perceived as inherently extractive and anti-labor (Ovetz and Weinberg, 2026).

In their chapter for the European Trade Union Institute's 2026 book *Governing Artificial intelligence in the Higher Education Sector*, Ovetz and Weinberg (2026) call for organized labor to collectively resist AI in Higher Ed in light of its corrosive influence in the education sector and beyond. In addition to organizing across the global AI supply chain and conducting workers' inquiries, as mentioned above, the authors recommend that faculty assert their agency in universities' shared governance models, continue writing open letters, and learn tactics from successful strikes focusing on AI – especially the highly visible 2023 Writers Guild of America strike in Hollywood (Ovetz and Weinberg, 2026). They urge students, faculty, and professional staff alike to vehemently protest HEI-commercial AI partnerships that undermine "working conditions, student learning settings and the environment" while "perpetuat [ing] labour abuses along the AI supply chain" (Ovetz and Weinberg, 2026, p. 130). Solidarity across various subsections of the university community would undoubtedly create greater pressure on HEI executives to reject commercial AI deals. In another powerful demonstration of collective action, Zheng et al. (2025) describe their joint faculty-student efforts to resist the imposition of AI at the University of Michigan. The authors conclude with an eloquent call to dismantle the structural links between HEIs and Big Tech that ultimately damage faculty labor and the environment:

> While the options legible to us as technologists or HCI [Human-Computer Interaction] scholars might be sharper critique or more conscientious design, the stakes for us as workers point toward a different set of practices for resistance: mapping the University's financial investments, critically examining the University's AI projects and investments, and documenting material impacts on workers, students, and the environment. Simultaneously, we must create space for workers and students to collectively articulate their desires for better universities, workplaces, and worlds—and contest the ways that "AI" shrinks these desires to a point. (Zheng et al., 2025, p. 3)

As alluded to in this passage, discursively linking different forms of exploitation – of labor, of the environment, of the entire university system as a source of commercial profit – may be an effective means of winning broader public support for university resistance to Big Tech. For HEIs to reckon with AI's environmental impacts, it is therefore necessary to reframe the education sector's hurried embrace of these technologies in terms of its greater costs and benefits to society.

Writing for the British Education Research Association, Clayton et al. (2025) offer several prompts to jumpstart these critical discussions:

- Who benefits from AI's expansion in schools? Who doesn't?
- How do we weigh the environmental costs of AI against its potential benefits in the classroom, especially in the context of climate change, water scarcity and environmental pollution?
- How should environmental considerations be included in ethical guidelines for the development and use of AI tools in educational and research settings? (Clayton et al., 2025)

While there are no easy answers here, such pointed questions may begin the process of challenging the persistent yet unfounded assertions of AI's inevitability and unequivocal enrichment of Higher Ed, which permit and perhaps tacitly endorse a status quo in which Big Tech's greenwashing tactics remain unchallenged.

Conclusion

This essay has argued that confronting AI's environmental harms requires Higher Ed to recognize and correct its uncritical acquiescence to the expansion of these commercial technologies. Critical perspectives from social sciences and the humanities are essential for piercing through the pervasive narrative that the current AI landscape is an inevitable and desirable outcome of technological progress. Instead, the sector need engage AI "in contestable terms—as a site of struggle and politics, rather than a neutral benign addition to classrooms" (Selwyn, 2022, p. 626). Whether or not AI brings benefits to the classroom, universities must recognize that it causes harms far beyond it. This essay has contended that alleviating these harms requires confronting Big Tech's power over Higher Ed's conceptualization and deployment of AI technologies.

As outlined above, increasing entanglements between Higher Ed and the tech industry have followed a decline in public funding for universities and their subsequent increased reliance on private partnerships. These structural concessions contextualize the narrow perspective of AI ethics among HEIs that favors Big Tech's growth-based business models. In particular, this dominant narrative holds that 1) AI, as it is currently designed and deployed, is here to stay, and 2) the responsible and ethical application of AI is primarily determined by end user behavior. These assumptions foreclose more fundamental and robust examinations of AI's place in society, including the question of whether its benefits justify the multitude of its social and environmental costs. In addition to its leverage over academic research, Big Tech engages in various greenwashing strategies, including overstating AI's climate benefits, misrepresenting the effectiveness of their sustainability initiatives, and denying transparency in their environmental reporting. The AI industry's effectiveness in greenwashing their extensive environmental impacts may only be countered by a commensurate level of collective resistance. As shown in this essay, there are already some noteworthy forms of resistance underway both within and beyond university contexts. AI's environmental harms are not simply a problem for engineers to solve. In order for Higher Ed to reckon with these harms, social scientists and humanities scholars must challenge the conflicts of interest and false narratives that abet the expansionary impulses behind AI's growing ecological consequences.

The discussion presented here has several notable limitations. First and foremost, it has overwhelmingly focused on policies, developments, and actions in Global North HEIs, whereas Global South HEIs' perspectives and actions regarding AI have remained unexplored here. The preceding section has briefly acknowledged Latin America's precedents for alternative tech infrastructures as well as the need for Global North-South solidarities with respect to the diffuse nature of AI's global supply chains. However, it is more appropriate for Global South scholars to provide insights from their vantage points in future works.

Furthermore, this essay has not addressed the relevance of ongoing legal disputes regarding Big Tech's use of copyrighted materials in training AI models. Tech firms' ability to acquire AI training data plays a major role in the expansion of these technologies and, consequently, their environmental impacts. Higher Ed has not evaded the AI industry's pursuit of training data. Several major academic publishers have rather controversially elected to license entire catalogs of scholars' published works to Big Tech companies for the explicit purpose of training AI models; these deals have been carried out despite authors' lack of prior consultation and general ability to opt out (Kwon, 2024). Like the resistance efforts described earlier, contesting this process on environmental grounds will require critical reflection and collective action that reckons with the wider, pressurized ecosystem of academic publishing.

Another limitation of this essay is its lack of an alternative vision for AI. While the discussion has focused on resisting commercial AI's rapid expansion, it has not approached the question of what role, if any, AI should have in securing the well-being of the planet. Social scientists and humanities scholars might also lead the way in envisioning democratic processes that properly weigh AI's costs and benefits without the distorting influence of powerful commercial forces. Additionally, the essay has taken for granted the alignment of various groups within university environments. As such, future work should more adequately explore the differing forms of agency among various actors within HEIs – faculty, administrative staff, students, university executives, etc.

To speak of *university* resistance to Big Tech entails a broader question which this essay has largely neglected: who makes up the university? Like all institutions, universities are not monoliths; they consist of diverse groups with intersecting, sometimes competing values and interests. Recent developments indicate that Higher Ed's collective negotiation of the diverse values and interests has been subject to significant interference by Big Tech. This industry influence has diluted universities' vigor in confronting urgent ethical issues pertaining to AI, including Big Tech's efforts to greenwash these technologies' considerable environmental impacts. HEIs must work to resist tech giants' dominance over research agendas and institutional practices, reasserting the university as a sovereign institution and a community unified in pursuing the collective good of the public and the planet.

Ethics and consent

Ethical approval and consent were not required.

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No data is associated with this article, given the essay's nature and contents.

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Brandon N. Obenza
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This essay provides a timely and thought-provoking examination of the environmental implications of artificial intelligence adoption in higher education. Drawing upon recent scholarship in AI ethics, environmental sustainability, critical AI studies, and the political economy of higher education, the author argues that universities have become increasingly entangled with large technology companies in ways that constrain critical engagement with AI's ecological consequences. The manuscript further contends that higher education institutions may inadvertently reinforce corporate greenwashing narratives and concludes by proposing strategies through which universities can reclaim institutional independence and contribute to more environmentally responsible approaches to AI governance.
Additionally, the topic is discussed accurately within the context of the current literature. The manuscript demonstrates extensive engagement with recent scholarship and synthesizes a wide range of interdisciplinary sources into a coherent narrative. The paper is clearly written, logically organized, and the central argument is persuasive and generally supported by appropriate evidence. The discussion successfully connects environmental sustainability, higher education governance, AI ethics, and corporate influence, making the manuscript highly relevant to ongoing debates within these fields.
My only reservation concerns the breadth of the essay's broader contribution to the cultural, historical, and social understanding of the field. While the paper effectively critiques the political economy surrounding AI adoption and offers valuable normative arguments, it primarily synthesizes and extends existing critical scholarship rather than introducing a substantially new conceptual framework or historical interpretation. The discussion is heavily centered on institutional critique and advocacy for structural change, whereas deeper engagement with the historical evolution of university–industry relationships, alternative perspectives within AI governance, or comparative cultural contexts would further strengthen its broader scholarly contribution.
I therefore encourage the author to consider several revisions that would enhance the manuscript without altering its central thesis.

First, some of the stronger normative claims would benefit from slightly more cautious wording that clearly distinguishes empirical evidence from interpretive argument. Statements concerning universities' "complicity" in Big Tech's greenwashing, for example, should consistently clarify when they represent reasoned interpretation rather than directly demonstrated empirical findings.
Second, although the manuscript appropriately challenges prevailing techno-optimistic narratives, it would benefit from a somewhat more balanced engagement with literature documenting legitimate environmental applications of AI, including energy optimization, climate modeling, and resource management. Addressing these perspectives more explicitly would strengthen the overall persuasiveness of the critique by demonstrating that competing evidence has been fully considered.
Third, the concept of greenwashing functions as the manuscript's central analytical lens but occasionally overlaps with related concepts such as regulatory capture, corporate influence, neoliberal governance, and technological solutionism. More explicit conceptual differentiation among these ideas would improve analytical precision and assist readers from diverse disciplinary backgrounds.
Finally, the concluding section presents numerous valuable recommendations for higher education institutions. Organizing these recommendations into thematic categories, such as institutional governance, research policy, procurement practices, faculty engagement, and community partnerships, would improve readability and increase the practical utility of the paper for university leaders and policymakers.
Finally, this is a well-written, timely, and carefully researched essay that makes a valuable contribution to current discussions surrounding AI, sustainability, and higher education. The suggested revisions are intended to improve conceptual clarity, scholarly balance, and analytical precision rather than to challenge the manuscript's overall argument. Subject to these relatively modest revisions, I believe the article is suitable for indexing.

Is the topic of the essay discussed accurately in the context of the current literature?
Yes

Is the work clearly and cogently presented?
Yes

Is the argument persuasive and supported by appropriate evidence?
Yes

Does the essay contribute to the cultural, historical, social understanding of the field?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Social Sciences, Educational Technology, Artificial Intelligence, Applied Linguistics.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 18 June 2026

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Carla Bonato Marcolin
Federal University of Uberlândia (UFU), Minas Gerais, Brazil

The article explores a timely and relevant issue regarding Higher Education Institutions (HEIs) and Big Tech. While the introduction is broad, the author states in the final paragraph that the essay encompasses three major discussions: capitalist market logics in Higher Ed, the entanglement of HEIs with Big Tech, and finally, greenwashing discourse and resistance. However, the most robust and in-depth discussion, which includes the majority of the evidence, is concentrated within the second theme, despite the title and abstract indicating that "greenwashing" is a central focus. I believe it is important to better frame the article in order to align the reader's expectations. The discussion concerning greenwashing and the role of universities is quite shallow when compared to the analysis of HEIs and Big Tech. Although there is an effort to present literature on greenwashing, much of the empirical data is missing; consequently, the section relies more on speculation than on actual measures of water and energy consumption. I believe that with a few adjustments to the narrative structure, specifically within the title, abstract, and sections, the article will successfully fulfill the reader's expectations, resulting in a more solid and deeper academic contribution.

Is the topic of the essay discussed accurately in the context of the current literature?
Partly

Is the work clearly and cogently presented?
Yes

Is the argument persuasive and supported by appropriate evidence?
Yes

Does the essay contribute to the cultural, historical, social understanding of the field?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Artificial Intelligence; Large Language Models; HEI and Sustainability

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.