

Something Wired This Way Comes: What Fracking Taught Planners That Data Center Communities Need to Learn

Austin Zwick

To cite this article: Austin Zwick (24 Aug 2026): Something Wired This Way Comes: What Fracking Taught Planners That Data Center Communities Need to Learn, Journal of the American Planning Association, DOI: [10.1080/01944363.2026.2710901](https://doi.org/10.1080/01944363.2026.2710901)

To link to this article: <https://doi.org/10.1080/01944363.2026.2710901>



© 2026 The Author(s). Published with license by Taylor & Francis Group, LLC.



Published online: 24 Aug 2026.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

Something Wired This Way Comes: What Fracking Taught Planners That Data Center Communities Need to Learn

Austin Zwick 

College of Professional Studies & Maxwell School of Citizenship and Public Affairs, Syracuse University, Syracuse, NY, USA

ABSTRACT

Artificial intelligence (AI) data centers impose the same externalities on local communities that hydraulic fracturing did a decade ago: massive water consumption, continuous noise, construction road damage, thin permanent employment, and fiscal mismatches that leave municipalities bearing infrastructure costs while states capture revenue through tax abatements. Drawing on field work with municipal planners across five Marcellus Shale states, I argue in this Viewpoint that planners should treat data centers as heavy industrial uses and apply the targeted regulatory tools that fracking communities developed through hard experience. Outright bans invite state preemption; targeted regulation has proved durable. The analogy has limits, but the governance playbook transfers.

KEYWORDS

Data centers; emerging industries; fracking; land use planning; local regulation

In 2024, voters in Warrenton (VA) ousted their entire town council after it approved a controversial Amazon data center project. Crowds jeering at council meetings across the country have made opposition to data centers the “Most Bipartisan Issue Since Beer,” as *The New York Times* put it (Tavernise, 2026). The opposition is not abstract; residents objected to the water demand, the noise from cooling systems, the truck traffic, the loss of rural character, and the weak promises of permanent employment. These protests might seem new; however, they are a familiar sight to anyone who followed the fracking boom a decade earlier, when communities caught between the promise of economic development and the reality of industrial externalities had little power to control either. These are planning problems, and the same institutional question that shaped my fracking research applies here: What are municipalities’ administrative capacities and capabilities to regulate this emerging industry?

The parallels between fracking and data centers are structural, not superficial. Both are technology-driven industries that arrive rapidly in rural and semirural communities, overwhelm local planning capacity, and generate negative externalities across

the same domains: water, noise, light, roads, land use, and local fiscal health. Both deliver fewer permanent jobs than advertised. The data center boom amounts to a digital-age version of resource extraction. Kollar (2026a) argued a “fossil–AI nexus” now links gas-fired power generation directly to data center expansion, so the political economy connection between the two industries is not merely analogical but material. Yet there is little evidence planners are drawing on the fracking experience. In this Viewpoint I argue they should.

The fracking industry became widespread after 2007; more than 45,000 wells were drilled in 5 years (Cho, 2014). The data center boom has moved faster, with construction spending up 331% since 2021 and more than 40 states considering 267 data center bills in 2025 (MultiState, 2026b). My field work across five Marcellus Shale states found the most common municipal policy was no policy at all (Loh & Osland, 2016; Zwick, 2018c). The show sets up overnight; by the time anyone decides whether to let it in, it is already running.

The jobs argument drives both booms, and in both cases the numbers warrant scrutiny. Industry-funded studies project large employment multipliers for data centers using the same input–output

CONTACT Austin Zwick  alzwick@syr.edu

© 2026 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

models that overstated fracking employment a decade ago; independent research has consistently found more modest job numbers in practice (Baker Tilly, 2026; Hicks, 2025). My research has found fracking created fewer jobs than initially advertised; most workers commuted, sometimes from nearby counties and other times from across the country, rather than relocating or being hired locally (Zwick, 2018c). Local communities often felt taken advantage of but were stuck between a rock and a hard place due to the lack of alternatives.

This pattern has deeper roots. Coal exploited agricultural workers when farming collapsed; fracking exploited coal workers displaced by automation; data centers are now courting the same communities with the same promise of renewal (Zwick, 2018a). Examined closely, the job numbers were a hall of mirrors; the impressive figures reflected construction crews passing through rather than permanent residents putting down roots. A typical hyperscale data center employs 1,000 to 6,400 workers during construction but only 50 to 200 once operational (Built In, 2026; Joint Legislative Audit and Review Commission [JLARC], 2024). Most construction jobs are filled by nonlocal workers, reproducing the drive-in/drive-out pattern I documented in fracking communities.

These dynamics are beginning to receive scholarly attention. Monstadt and Saltzman (2025) showed how *cloud* metaphors obscure the material footprint of data infrastructure; Gour et al. (2026) documented the public health implications of data center expansion in Virginia. On the fracking side, Loh and Osland (2016) found a lack of planning regulations around externalities; Andrews (2008) argued emerging energy technologies pose siting issues for planners that traditional frameworks cannot address; and Howland (2010) showed how industrial land contests intensify when growth meets residential pressure. Kollar (2026b) examined how state legislation is rescaling planning authority upward for data center infrastructure specifically.

My own research across five states produced a finding directly relevant to the data center context: Despite environmental risk, the local political argument for jobs was too strong to permit municipal regulation (Zwick, 2018c). Blue-collar communities did not regulate, having traded environmental quality for employment since the coal era (Zwick, 2018a). College towns attempted bans. Only communities caught in between, those with mixed economies and some administrative capacity, found

a middle ground. Geographic proximity to drilling was not a significant factor; economic base was.

This typology maps onto data center politics. Declining rural communities in Virginia, Georgia, and Mississippi are embracing data centers with minimal terms, just as blue-collar Appalachian towns embraced fracking. Suburban communities near Washington (DC) and Phoenix (AZ) are pushing back; Warrenton's council ouster is the data center equivalent of college-town fracking bans. Loudoun County (VA), which ended by-right data center zoning in 2025 and adopted conditional use standards requiring public hearings (Loudoun County, 2025), represents the middle ground. The question for every community is not whether the industry arrives but what terms it arrives on.

The fracking experience shows what happens at each end of that spectrum. More than 250 municipalities banned fracking; most bans were overturned (Americans Against Fracking, 2017; Goho, 2012). Targeted regulations proved more durable. Murrysville (PA) increased setbacks to 750 ft (effectively 1,000 ft from the well pad edge), mandated design standards, and imposed noise and light controls (Varine, 2017). Monroeville (PA) added a \$500,000 performance bond and 30-day advance notice (Carr, 2017). Even after the Robinson Township (PA) ruling restored some municipal power, most municipalities did not act. One planning director told me the state government "takes and takes and takes, not letting us clean up the mess." Road repair was the one regulation nearly all municipalities enacted because it was the externality they could least afford to absorb (Zwick, 2018c).

The same preemption dynamic emerges with data centers: West Virginia has preempted local regulation (MultiState, 2026a), and Pennsylvania's proposed RESET Board would shift siting to a state body (Pennsylvania Municipal League, 2026). The local regulation route, with data centers, is a road not yet much traveled, but it should be.

Planning Domains Compared

Table 1 compares fracking and data centers across 12 regulatory dimensions. Three patterns emerge: The externality structure is functionally equivalent across most dimensions; data center regulations are currently weaker despite comparable or more persistent impacts; and the recommended standards draw on tools already in most municipal codes. All

Table 1. Recommended regulatory standards derived from fracking experience.

Planning tool	Fracking experience	Data center challenge	Recommended standard
Zoning	By-right in many jurisdictions	By-right in most rural codes	Conditional use; public hearing required
Setbacks	State minimum: 200–500 ft Murrys ville: ~1,000 ft effective	Fairfax County: 200 ft; most have none	Minimum 1,000 ft; advocate for DC-specific studies
Noise	Ordinances for episodic disruption; inadequate for 24/7	55–85 dB continuously; ordinances not designed for this	Continuous-operation limits; pre/post studies; acoustic mitigation
Light	Floodlights; flaring; time-of-day restrictions	24-hr security lighting; no standards	Dark-sky compliant; shielded; visual screening
Water	1.5–16 million gallons/well; wastewater risks	300,000–5 million gallons/day cooling; 40% in stressed areas	Impact assessments; use caps; no below-residential rates
Roads	1,800–2,600 trips/well; insufficient bonds	5–7 years construction; 400%+ traffic increases	Project-specific bonds; designated routes
Impact fees	PA: impact fee; CO: \$18–\$36.8K/well	Few charge; most subsidize	Per-facility fees indexed to size
Bonds	OH: \$3 million insurance: \$500,000	Rarely required	Cover construction, roads, decommissioning
Property tax	Reassessment lag; mineral taxation barred in some states	10–25 year abatements; half lack job requirements	Sunset clauses; alternative use benchmarking
Revenue sharing	Severance taxes rarely shared with hosts	Race-to-the-bottom abatements	Index fees to electricity/water; mandate cost-sharing
Environmental review	State Environmental Impact Statement in some states	No standard requirement	Required above size/power threshold
NDA/CBAs	NDAs common; CBAs underused	NDAs between developers and officials reported	Bar NDAs; require CBAs as condition of approval

Note: Comparison of local regulatory tools for fracking and AI data centers across 12 planning domains, with recommended standards derived from the fracking experience. NDA = Non-disclosure Agreement; CBA = Community Benefit Agreement.

Source: Author's compilation from field work and emerging data center evidence.

municipalities need to do is have the will to invoke them.

Consider water. Each fracking well requires 1.5 to 16 million gallons; wastewater disposal compounds the risk, with jurisdiction contested between state and local government (Zwick, 2018b, 2018c). Data centers consume water for evaporative cooling, with hyperscale facilities using up to 5 million gallons daily (Brookings Institution, 2025). In Newton County (GA), a single Meta facility uses 10% of the county's water (Gorey, 2026). In Mesa (AZ), Google negotiated a preferential water rate of \$6.08 per 1,000 gallons while residents paid \$10.80, illustrating how large-user leverage in municipal utility negotiations can shift costs to residential ratepayers (Olson et al., 2024). In both industries, the fear of contamination or resource competition can diminish long-term property values even before any harm is documented (McGraw, 2012). Municipalities that impose water consumption caps effectively compel operators to shift from open-loop evaporative cooling to closed-circuit systems that recirculate it, turning a blunt regulatory tool into a technology-forcing mechanism.

Fracking produced continuous low-frequency hum from compression stations, and my field work confirmed that municipal noise ordinances, written for episodic disruptions like loud parties or daytime construction, were structurally inadequate for around-the-clock industrial operations (Zwick, 2018c). Data center noise is arguably more

persistent. Cooling systems produce 55 to 85 decibels continuously (Yañez-Barnuevo, 2026; Gour et al., 2026). In Prince William County (VA), the board of supervisors disbanded a resident noise advisory group and passed a weaker ordinance than recommended (Smith-Schoenwalder, 2026). Medical research on fracking recommended setbacks of at least 2,000 ft (Brown et al., 2014; Rabinowitz et al., 2015); no equivalent peer-reviewed study exists for data centers, but Virginia JLARC's (2024) analysis and the Gour et al. (2026) health assessment provide a policy-evidence base planners can draw on now.

Road damage was the fracking externality local governments could least afford to ignore; each well required 1,800 to 2,600 truck trips, and the U.S. Department of Transportation's Fourth Power Law estimates a 9-ton truck causes 410 times the road damage of an average car (Zwick, 2018b). Data center construction generates comparable traffic sustained over years; in Remington (VA), traffic was projected to increase by more than 400% (Piedmont Environmental Council, 2025). In Saline Township (MI), Oracle's construction trucks damaged recently repaved streets (Blitchok, 2026).

Zoning and light pollution follow the same pattern. Most local codes lacked provisions for either fracking or data centers, treating both as by-right uses. Loudoun County's conditional use standards (Loudoun County, 2025), which require public hearings and site plan review, provide a model that

other jurisdictions can adapt. In light pollution, fracking produced temporary floodlighting during the drilling phase; data centers produce permanent illumination from 24-hr security lighting. Residents near northern Virginia facilities report that complete darkness is gone (Smith-Schoenwalder, 2026). Communities that valued their rural nightscape before a data center arrived have no mechanism to recover it afterward, making proactive dark-sky standards essential.

The fiscal mismatch might be the most consequential parallel. State severance taxes from fracking rarely reached host municipalities; Pennsylvania distributed revenue to all 67 counties despite drilling in only seven (Zwick, 2018b). For data centers, the picture is uneven. Some Virginia localities receive substantial property tax revenue, and Loudoun County has used it to reduce residential taxes. At least 36 states offer tax abatements, though, with half not requiring job creation; one New York project promised 125 jobs in exchange for \$1.4 billion in subsidies (Tarczynska, 2026). The issue is not simply fiscal loss but the uneven distribution of costs and benefits across municipalities, counties, utilities, and states. Communities that bear the infrastructure burden often receive the least compensation, while states capture the political credit for attracting investment.

Despite the many similarities, the comparison should not be overstated. Data centers are permanent infrastructure; they do not deplete a finite resource and move on. They are geographically unbound by geology, meaning companies choose locations based on power, fiber, and tax incentives

rather than subsurface formations. They serve a national strategic interest in artificial intelligence (AI) competitiveness, whereas fracking served a national strategic interest in energy independence. Independent research has suggested that under the right governance conditions, including cost-reflective electricity pricing, water use transparency, enforceable community benefits agreements, and meaningful local revenue sharing, data centers can be net contributors to their host communities (Baker Tilly, 2026; Brookings Institution, 2026). What transfers from the fracking case is not the prediction of inevitable harm but the warning that without proactive local regulation, the costs will be socialized while the benefits are captured elsewhere. The governance playbook is the transferable lesson.

What Planners Can Do

Figure 1 adapts the decision tree from my fracking research. The tree flows through the three questions introduced earlier. Communities might not be able to decide if an AI data center arrives, but they can decide how welcoming they want to be. Choosing a resistance path through direct or de facto bans may work, but it could also invite state preemption; choosing a hospitable path should focus on negotiating agreements that cover direct costs while attracting investment; choosing, or being pushed toward, a neutral path addresses both direct costs and the broader range of externalities through regulation. Communities that do not clear those gates still have options: Preempted municipalities can enforce existing bylaws and negotiate voluntary

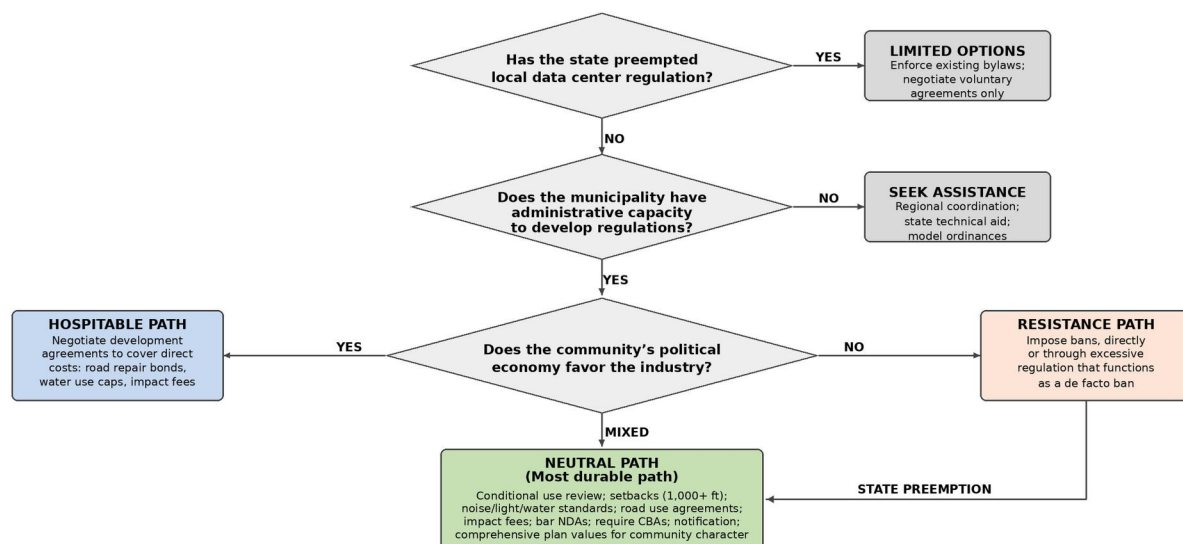


Figure 1. Decision tree for local governments facing data center proposals. CBA = Community Benefit Agreements; NDA = Non-disclosure agreements.

development agreements, and those lacking capacity can seek regional coordination or model ordinances. For communities that do clear both gates, every branch leads to the same regulatory tools; the difference lies in how many the community deploys and how stringently it applies them.

First, act before the facility is approved, even if the community wants to take a hospitable path. Fifty-six of 130 Allegheny County municipalities lacked oil-and-gas zoning when drilling rebounded (Hopey, 2017). Any community near transmission infrastructure, fiber corridors, or water resources is a potential data center site. Proactive steps include reclassifying data centers as conditional industrial uses, establishing continuous-operation noise and light standards, and adopting water use disclosure requirements. The fracking communities that fared best were those that had regulations in place before the first well was drilled.

Second, regulate rather than ban. Although bans do signal a resistance path to data center companies, they are regularly preempted by the state, whereas regulations typically are not. Kollar (2026b) documented how states are already preempting AI data center bans, shifting regulatory power to the state level. In the fracking context, as in Bradbury's (1962) novel, the communities that fared best were not the ones that tried to bar the door but the ones that armed themselves with knowledge: ordinances grounded in evidence, bonds sized to actual costs, and agreements with enforceable terms. Community benefits agreements should be required as part of conditional use review. Nondisclosure agreements between developers and local officials, reported in multiple data center jurisdictions, should be explicitly barred; transparency is a precondition for democratic planning. Communities concerned with preserving rural character should articulate those values in their comprehensive plans, creating a documented basis for zoning and other downstream regulations.

Third, even for communities who want to take a neutral path, prioritize what the local government can least afford to absorb: road damage, water supply, and electricity costs. Regional coordination matters; data center clusters span jurisdictions, and the alternative is a fracking-era patchwork in which neighbors bear each other's spillover costs (Brookings Institution, 2025; Zwick, 2018b). Whereas Kollar (2026b) documented how state preemption is stripping local authority, the regulatory tools outlined here represent what planners can still do with

the authority they retain. Impact fees should be indexed to facility size, and development agreements should include cost-sharing provisions with sunset clauses on any tax abatements. Table 1 provides the specific recommended standards for each regulatory domain.

Cutting across all three principles is an obligation to equity. The fracking boom concentrated environmental burdens in disadvantaged communities (Morrone et al., 2015; Zwick, 2018c). Data centers are following the same pattern. Han et al. (2024) projected that data center air pollution could contribute to 600,000 asthma cases and 1,300 premature deaths annually by 2028, with per-household health costs 200 times greater in disadvantaged areas. The Appalachian Regional Commission's 420 counties overlap with proposed data center geography; the communities that hosted coal and then fracking are being courted again. The pattern across three industries is structural: Each has sought communities where land is cheap, regulation is light, and residents have learned to accept environmental tradeoffs as the cost of participation in the economy (Zwick, 2018a). The language of the "national sacrifice area," originally a technical category in federal assessments of strip-mined land, was taken up by Appalachian organizations as a political claim about the region's role in national energy policy (Juskus, 2023, p. 8); the data center boom risks extending that sacrifice into a new century and a new industry. As a Louisiana official said when voting against a data center power project in Cancer Alley, "Not all economic development is good economic development" (Dean, 2025).

Conclusion

The broader question of how local government grapples with emerging industries that impose locally concentrated externalities is a recurring challenge planners will face repeatedly. However, a playbook already exists; it just needs to be invoked.

Four lessons transfer from the fracking experience to data center governance. First, planners must act before proposals arrive. Second, outright bans are legally fragile, whereas targeted regulations (e.g., conditional use review, setbacks, noise standards, road use agreements, community benefits agreements) are sturdy. Third, road damage and water supply are the externalities local governments can least afford to absorb and should prioritize, ensuring there are provisions to cover those costs. Finally,

disadvantaged communities will bear the heaviest burden unless equity is built into the regulatory framework from the start.

The analogy between fracking and data centers has limits, and the data center literature is still emerging. Future research should include (a) documenting how data center host communities are responding to the regulatory challenge; (b) assessing the longitudinal fiscal health of host municipalities under different abatement regimes; and (c) evaluating which planning tools (conditional use review, setbacks, impact fees, community benefits agreements) produce measurable improvements in community outcomes.

The show will always head to the next town; the question is whether planners will be ready when it arrives.

Disclosure Statement

No potential conflict of interest was reported by the author.

ORCID

Austin Zwick  <http://orcid.org/0000-0003-3727-055X>

Data Availability Statement

This Viewpoint draws on the author's previously published field work (Zwick, 2018a, 2018b, 2018c) and publicly available sources cited in the reference list. No new data were collected for this article.

References

- Americans Against Fracking. (2017). *About the coalition*. <https://www.americansagainstfracking.org/about-the-coalition/>
- Andrews, C. J. (2008). Energy conversion goes local. *Journal of the American Planning Association*, 74(2), 231–254. <https://doi.org/10.1080/01944360801993531>
- Blitchok, D. (2026, March 17). Saline residents blast Oracle data center construction. *Planet Detroit*. <https://planet-detroit.org/2026/03/saline-data-center-traffic/>
- Baker Tilly. (2026). *Data center impact on local communities: Balancing growth*. <https://www.bakertilly.com/insights/data-center-impact-on-local-communities>
- Bradbury, R. (1962). *Something wicked this way comes*. Simon & Schuster.
- Brookings Institution. (2025). *AI, data centers, and water*. <https://www.brookings.edu/articles/ai-data-centers-and-water/>
- Brookings Institution. (2026). *The local implications of data centers for rural communities*. <https://www.brookings.edu/articles/local-implications-data-centers-rural-communities-us/>
- Brown, D., Weinberger, B., Lewis, C., & Bonaparte, H. (2014). Understanding exposure from natural gas drilling. *Reviews on Environmental Health*, 29(4), 277–292. <https://doi.org/10.1515/reveh-2014-0002>
- Built In. (2026). *Data center jobs explained*. <https://builtin.com/articles/data-center-jobs>
- Carr, D. (2017). *New Monroeville law puts limits on pre-fracking tests*. TRIBLive.
- Cho, R. (2014). *Fracking facts*. Earth Institute, Columbia University. <https://news.climate.columbia.edu/2014/06/06/the-fracking-facts/>
- Dean, J. (2025, November 26). *Data centers won't stop the labor market slowdown: November 2025 Race, Jobs And Economy Update*. National Community Reinvestment Coalition. <https://ncrc.org/data-centers-wont-stop-the-labor-market-slowdown-november-2025-race-jobs-and-economy-update>
- Goho, S. A. (2012). Municipalities and hydraulic fracturing: Trends in state preemption. *Planning & Environmental Law*, 64(7), 3–9. <https://doi.org/10.1080/15480755.2012.699757>
- Gorey, J. (2026, October 17). *Data drain: The land and water impacts of the AI boom*. Lincoln Institute of Land Policy. <https://www.lincolnst.edu/publications/land-lines-magazine/articles/land-water-impacts-data-centers/>
- Gour, N., Ortiz, L., & Maibach, E. (2026). Health implications of the rapid rise of data centers in Virginia. *Frontiers in Climate*, 8, 1648912. <https://doi.org/10.3389/fclim.2026.1648912>
- Han, Y., Ren, S., Wu, Z., Li, P., Wierman, A. (2024). *Health-informed computing: Estimating and addressing the public health impact of data centers*. <https://arxiv.org/abs/2412.06288>
- Hicks, M. J. (2025). *The local economic impacts of data centers*. Ball State University.
- Hopey, D. (2017). Many Allegheny County municipalities unprepared for drilling rebound. *Pittsburgh Post-Gazette*.
- Howland, M. (2010). Planning for industry in a post-industrial world. *Journal of the American Planning Association*, 77(1), 39–53. <https://doi.org/10.1080/01944363.2011.531233>
- Joint Legislative Audit and Review Commission (JLARC). (2024). *Data centers in Virginia*. Virginia Joint Legislative Audit and Review Commission.
- Juskus, R. (2023). Sacrifice zones: A genealogy and analysis of an environmental justice concept. *Environmental Humanities*, 15(1), 3–24. <https://doi.org/10.1215/22011919-10216129>
- Kollar, J. (2026a). The fossil-AI nexus: Petrostate capitalism, computing power, and the production of powered land. *New Political Economy*. Advance online publication. <https://doi.org/10.1080/13563467.2026.2683974>
- Kollar, J. (2026b). Planning under preemption. *Journal of the American Planning Association*, 92(2), 326–332. <https://doi.org/10.1080/01944363.2026.2618221>
- Loh, C. G., & Osland, A. C. (2016). Local land use planning responses to hydraulic fracturing. *Journal of the American Planning Association*, 82(3), 222–235. <https://doi.org/10.1080/01944363.2016.1176535>

- Loudoun County. (2025). *Phase 1: Project plan for data center standards & locations*. <https://www.loudoun.gov/6221/Phase-1-Project-Plan-for-Data-Center-Sta>
- McGraw, S. (2012). *The end of country: Dispatches from the frack zone*. Random House.
- Monstadt, J., & Saltzman, K. (2025). How data centers have come to matter. *International Journal of Urban and Regional Research*, 49(4), 757–778. <https://doi.org/10.1111/1468-2427.13316>
- Morrone, M., Chadwick, A., & Kruse, N. (2015). A community divided. *Journal of Appalachian Studies*, 21(2), 207–228. <https://doi.org/10.5406/jappastud.21.2.0207>
- MultiState. (2026a). *State data center legislation faces local zoning battles*.
- MultiState. (2026b). *State data center policy 101*. <https://www.multistate.us/resources/state-data-center-policy-101>
- Olson, E., Grau, A., & Tipton, T. (2024). *Data centers draining resources in water-stressed communities*. University of Tulsa.
- Pennsylvania Municipal League. (2026). *Data center pre-emption of PA municipalities*.
- Piedmont Environmental Council. (2025). *Facts about the Gigaland data center project*.
- Rabinowitz, P. M., Slizovskiy, I. B., Lamers, V., Trufan, S. J., Holford, T. R., Dziura, J. D., Peduzzi, P. N., Kane, M. J., Reif, J. S., Weiss, T. R., & Stowe, M. H. (2015). Proximity to natural gas wells and reported health status. *Environmental Health Perspectives*, 123(1), 21–26. <https://doi.org/10.1289/ehp.1307732>
- Smith-Schoenwalder, C. (2026, April 28). "Living in hell": Data center neighbors grapple with noise, air pollution. *U.S. News and World Report*. <https://www.usnews.com/news/national-news/articles/2026-04-28/living-in-hell-data-center-neighbors-grapple-with-noise-air-pollution>
- Tarczyska, K. (2026, March 23). Will data center job creation live up to hype? I have some concerns. *Good Jobs First*. <https://goodjobsfirst.org/will-data-center-job-creation-live-up-to-hype-i-have-some-concerns/>
- Tavernise, S. (2026, May 1). "The most bipartisan issue since beer": Opposition to data centers. *The New York Times*. <https://www.nytimes.com/2026/05/01/us/politics/liberals-conservatives-data-centers.html>
- Varine, P. (2017). Murrysville fracking ordinance. *TRIBLive*.
- Yañez-Barnuevo, M. (2026). *Communities are raising noise pollution concerns about data centers*. Environmental and Energy Study Institute. <https://www.eesi.org/articles/view/communities-are-raising-noise-pollution-concernsabout-data-centers>
- Zwick, A. (2018a). Comparison of the coal and fracking industries in Northern Appalachia. *Journal of Appalachian Studies*, 24(2), 168–184. <https://doi.org/10.5406/jappastud.24.2.0168>
- Zwick, A. (2018b). *The public finance challenges of fracking for local governments in the United States* (IMFG Papers on Municipal Finance and Governance No. 38). University of Toronto, Institute on Municipal Finance and Governance.
- Zwick, A. (2018c). *Resource boom to revitalization: The local economic planning and governance implications of fracking in Northern Appalachia* [PhD dissertation]. University of Toronto. TSpace. <https://utoronto.scholaris.ca/items/c8ad8683-165e-4be3-a356-400e1edd0664>