

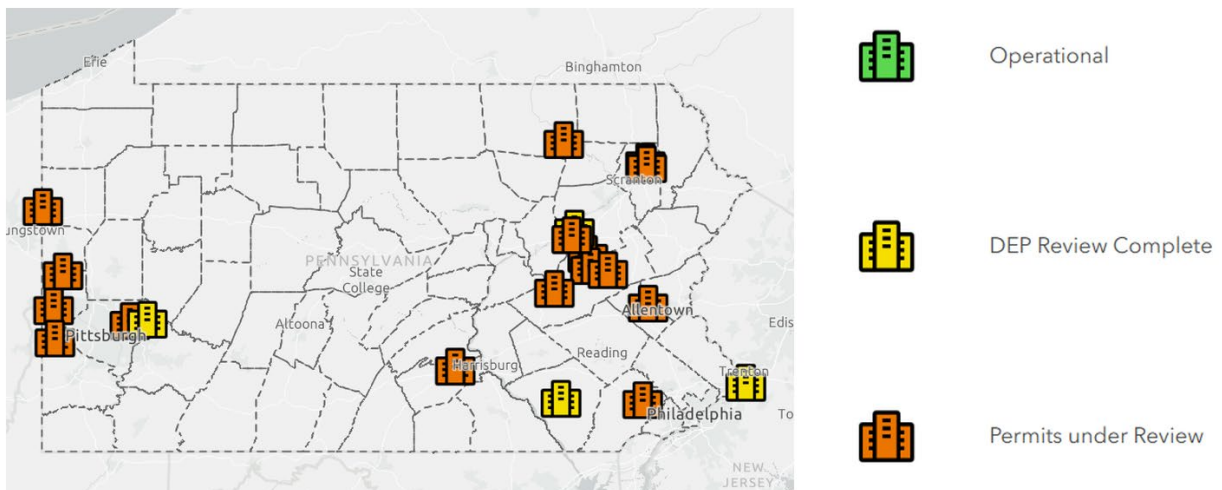
Data Centers in Pennsylvania: Necessary Infrastructure, Difficult Tradeoffs

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The Need and the Tradeoffs

The United States needs data centers, and Pennsylvania will almost certainly need more of them. Artificial intelligence, cloud computing, advanced manufacturing, scientific research, healthcare, financial systems, communications, and national security increasingly depend upon enormous computing capacity. We have a strategic interest in maintaining leadership in artificial intelligence rather than ceding technological and economic advantage to international competitors. Pennsylvania is well positioned to compete in this field because of its energy, land, and academic resources.

But digital infrastructure is not weightless. Behind artificial intelligence and cloud computing are physical facilities requiring land, electricity, transmission, water, roads, and communities willing to host them. As a fourth-generation farmer who spent much of my earlier career working with emerging technology and infrastructure, I have found myself confronting both sides of this issue. I remain enthusiastic about the potential of artificial intelligence while also spending considerable time talking with Pennsylvania farmers and rural communities confronting the consequences of data-center development and the infrastructure needed to support it.



Pennsylvania Department of Environmental Protection (DEP) Data Center Permit Tracker. This August 31, 2026 map shows only data center projects that have engaged with the Pennsylvania permitting process; it is not a comprehensive inventory of data centers proposed or under development in Pennsylvania. Other reporting indicates substantially more projects proposed across the Commonwealth.

The more I examine large-scale data center development in Pennsylvania, the less persuasive I find simple pro- or anti-data-center positions. The benefits of data center construction can be substantial, but so can the consequences, and those benefits and burdens often fall on different people and communities. I walk through many of the issues in this document.

What I Have Learned So Far, A Summary

Multiple conclusions about data centers and artificial intelligence have emerged from my experiences in the academic world, in policy discussions, and in the field talking to farmers and legislators¹:

Regarding Farmers and Landowners

- Protect both farmers who choose to sell land to data center developers and those who oppose electric transmission lines, easements, or related infrastructure on their land.
- Reform eminent-domain law and regulations before farmland is involuntarily acquired for data-center related infrastructure.
- AI and domestic agriculture are strategic assets; policy should not strengthen one by unnecessarily weakening the other.
- Data center impacts extend beyond building sites: new loads can drive electric generation, substations, and transmission corridors across multiple counties and states.
- Protect farmers, landowners, and other ratepayers from data-center related transmission costs.

Regarding Infrastructure, Resources, and Host Communities

- Water is local; the issue is whether new industrial demand suits a watershed or aquifer at a given time without harming users or natural resources.
- Farmland is more than acreage: electric transmission infrastructure can affect soils, drainage, conservation, aerial and drone applications, field layouts, and present and future automation.
- Farm families often have multigenerational emotional ties to land shaped by decades or centuries of stewardship.
- Measure economic benefits to the Commonwealth and rural communities under Pennsylvania's actual tax structure, not by comparing potential revenue to other states' taxing authority.
- Weigh long-term water, sewage, fire-protection, and other municipal costs against future data center tax revenue.
- Small rural municipalities may lack the legal, engineering, hydrological, planning, and administrative capacity to evaluate complex land-use, water, stormwater, noise, emergency-response, electric systems, decommissioning, and agricultural issues.
- Discourage confidentiality and non-disclosure agreements between developers and elected officials.

Regarding Potential Moratoriums

- Any study moratorium should be temporary, limited, and tied to specific policy work.
- Set moratorium durations, geography, and governmental level around Pennsylvania's specific problems, not as ends in themselves.
- Pennsylvania is not alone: governments elsewhere have used moratoria while developing rules for water, energy, land use, ratepayers, and community impacts.
- A local or state moratorium should be a planning tool—not anti-AI policy—so development does not outrun Pennsylvania's ability to manage consequences for agriculture, property, infrastructure, and rural communities.

¹ Artificial Intelligence was used extensively in writing, researching, editing, and checking this document, including OpenAI's ChatGPT, Microsoft Copilot, and Google Gemini. I engaged Raymond Yan, a recent Penn State graduate with experience in artificial intelligence, agricultural public policy and natural resource systems, to also conduct an independent manual review of the completed piece and its citations. Nonetheless, even though this document took the author many days of work, and I too cross-checked the text and citations "by hand", it may still have errors or omissions. Please use it appropriately checking with legal counsel as needed.



“Stop the Data Centers” sign in Luzerne County captures a growing public reaction to the speed and scale of development. Initiatives like a temporary, limited moratorium can be a better way to provide time to establish rules for siting, infrastructure, agriculture, private property, water, and energy for host communities—while preserving a path for responsible future investment. Photo by Andy Bater.

The Questions Pennsylvania Needs to Answer

The challenge for Pennsylvania is not simply whether data centers should be built. It is how, where, and under what conditions development should occur—and how the costs and benefits should be distributed among developers, utilities, ratepayers, landowners, municipalities, and the communities that host the infrastructure.

Those questions extend well beyond the boundaries of a data center site. New electric demand can require transmission lines crossing farms and private property. Water requirements can have very different implications depending on the watershed and community in which a project is located. Rural municipalities may be asked to evaluate unusually large and technically complex proposals with limited staff and resources. Tax revenues and economic development can be substantial in some circumstances but may not accrue to Pennsylvania communities in the ways residents expect. Noise, construction, decommissioning, cumulative development, and the long-term effects on agricultural operations also deserve consideration.

At the same time, the analysis cannot focus only on potential harms. Data centers support an increasingly important American industry, and we have a strategic interest in maintaining leadership in artificial intelligence rather than ceding technological and economic advantage to international competitors. Development may also create opportunities to reuse previously disturbed industrial land, remediate environmental problems, develop alternative water supplies, strengthen infrastructure, and provide tangible benefits to host communities.

The sections that follow examine these competing considerations through experiences in Pennsylvania. They consider private property rights, transmission and eminent domain, agriculture, water, municipal capacity, taxation, public acceptance, environmental remediation, community benefits, and the broader strategic importance of both artificial intelligence and domestic agricultural production. The objective is not to begin with a predetermined answer, but to identify the elements of a policy framework capable of accommodating development while protecting the people, resources, and communities most directly affected by it.

Private Property Rights Cut Both Ways

I believe a farmer or other landowner generally should have the right to decide whether to sell or lease property for a data center or another lawful use. For some families, such a decision may provide financial security, enable retirement, resolve succession questions, or simply represent the best use of an asset they own. Those choices deserve respect.

But one landowner's decision can have consequences for others who made no such choice. A data center may require new transmission infrastructure crossing neighboring farms and properties. Other effects—including noise, water demand, road traffic, drainage, or changes in surrounding land use—may extend beyond the boundaries of the property on which the facility is located.

The property-rights question therefore cannot end with whether the owner of a proposed data center site is willing to sell or develop the land. It must also consider the rights of neighboring property owners and others who may be asked to bear costs or surrender property interests because of that development.

This distinction becomes particularly important when eminent domain enters the picture. A voluntary transaction between a data center developer and a willing landowner is fundamentally different from requiring another landowner to provide property for adjacent infrastructure needed to make that data center transaction possible.

The Data Center Footprint Extends Beyond the Site

The agricultural impact of a data center cannot be measured simply by the acreage occupied by the facility. As I framed the issue in an April 21, 2026 Penn State Extension webinar, data centers are nodes; transmission lines and other supporting infrastructure can become the footprint across farms and communities.²

Large loads can require new substations, transmission lines, generation resources, and other infrastructure. That is why data center policy cannot be separated from energy and transmission policy. What follows in this memo are some particular examples of this interaction.

Transource: A Pennsylvania Warning

The Transource Independence Energy Connection is an unusually relevant Pennsylvania case study because farmers experienced the dispute directly. The project was proposed as a roughly 45-mile interstate transmission upgrade through portions of Pennsylvania and Maryland to relieve congestion identified through PJM's regional planning process.³ In 2021, the Pennsylvania Public Utility Commission denied Transource's applications after concluding that the company had not

²Penn State Extension, "Data Centers: Agriculture Meets Hyperscale AI," Apr. 21, 2026.

³PJM Interconnection is the organization that coordinates wholesale electricity movement and regional electric-grid planning across all or parts of 13 states and the District of Columbia, including Pennsylvania. Its responsibilities include identifying transmission-system needs and approving regional transmission projects.

demonstrated that the project would produce sufficient public benefit in Pennsylvania. A multi-year court battle followed.⁴

In a July 29, 2026, Center for Rural Pennsylvania hearing on data center impacts, York County Farm Bureau President Barron Shaw, an eighth-generation farmer and fourth-generation fruit grower, described how the proposed line threatened his family's preserved 220-acre orchard.⁵

The Transource dispute has subjected landowners to years of uncertainty; Transource filed 133 eminent-domain applications involving Pennsylvania properties during the proceeding. Of those filings, 93 sought rights-of-way across land in Franklin County and 40 across land in York County. The case illustrates the leverage created by condemnation authority. It's important to note that even where compensation is ultimately paid, a negotiation conducted under the possibility of condemnation is fundamentally different from an ordinary voluntary transaction.

Eminent Domain and the Public-Benefit Question for Public Utility Lines

The emergence of extraordinarily large data center loads raises a difficult question: when does transmission infrastructure constructed principally to serve one new customer constitute a sufficiently public use or public necessity to justify condemnation?⁶

Pennsylvania law does not appear to provide a simple categorical answer. Public utilities possess condemnation authority for qualifying public utility purposes, subject to statutory and regulatory requirements. The fact that one very large customer may be the principal beneficiary does not automatically resolve the public-use or public-necessity analysis. A PJM regional reliability project should present different legal considerations from a local utility extension built primarily for one customer.

That uncertainty itself supports careful policy development. Before farmers face condemnation for infrastructure associated with private data center development, Pennsylvania law and regulations should be clear about who benefits, who pays, what alternatives were considered, and what public necessity is being served.

Eminent Domain Reform: Compensating the Full Loss to a Farm

My concern about eminent domain did not begin with data centers. In January 2024, I testified before the Pennsylvania Senate State Government Committee in Bellefonte about eminent domain and its effects on farmers, prompted in part by the proposed State College Area Connector, a major highway

⁴ The Pennsylvania Public Utility Commission (PUC) denied Transource's siting applications for the Transource Independence Energy Connection (IEC) project, along with accompanying zoning-exemption and eminent-domain petitions; Transource had filed 133 eminent-domain applications involving Pennsylvania properties. The Commonwealth Court upheld the PUC's decision in *Transource Pennsylvania, LLC v. Pennsylvania Public Utility Commission* (2022), which rested principally on the conclusion that Transource had not established "need" under Pennsylvania law. In *Transource Pennsylvania, LLC v. DeFrank* (Sept. 5, 2025), the U.S. Court of Appeals for the Third Circuit affirmed the federal district court's ruling that the PUC's rejection of the project violated the Supremacy Clause because it posed an obstacle to the federally regulated regional transmission-planning process. The Third Circuit emphasized that its decision did not require the PUC to automatically approve siting or eminent-domain applications associated with a PJM-approved project. On June 8, 2026, the U.S. Supreme Court denied a petition for certiorari seeking review of the Third Circuit proceedings, leaving the Third Circuit judgment in place.

⁵ Barron Shaw, written testimony, President, York County Farm Bureau, Center for Rural Pennsylvania hearing on data center impacts and local decision-making, July 29, 2026.

⁶ Lara Fowler, Penn State Dickinson Law and Penn State Center for Energy Law and Policy, "Agriculture & eminent domain meets transmission & data centers," July 1, 2026; 15 Pa.C.S. § 1511; *Transource Pennsylvania, LLC v. DeFrank*.

project intended to improve the U.S. 322 corridor in Centre County. I argued then that conventional measures of land value can fail to capture the actual economic consequences when farmland is taken from a working agricultural operation. The same principle applies when the infrastructure at issue is a transmission line rather than a highway. The relevant question is not simply what the acreage taken is worth. It is what the taking causes the entire farm operation to lose.



My concern about eminent domain predates the current data-center debate. Testifying before the Pennsylvania Senate State Government Committee in Bellefonte on January 22, 2024. Still image from the committee's public-hearing video. (The bald eagles pictured here live on one of the farms that would be impacted by a proposed highway.) Source: Pennsylvania Senate State Government Committee.

Traditional compensation methods can miss important components of agricultural value. A working farm may depend on field configuration, access, irrigation, drainage, customer relationships, location, agritourism, direct marketing, specialized perennial crops, or other investments whose value is tied to it remaining an integrated operation. Compensation policy should recognize that a farm can lose economic and operational value even when most of its acreage remains in agricultural use.

Pennsylvania legislators have already been considering whether eminent-domain compensation should better recognize losses to the goodwill of a business or farm operation. Senate Bill 225, introduced by Senator Cris Dush, supported by Pennsylvania Farm Bureau and modeled on California law, would provide compensation for qualifying loss of goodwill caused by a taking.

Senator Dush has specifically described the problem in agricultural terms: a farm's value can reflect fertile soil, location, customer relationships, and improvements cultivated over generations. The Senate passed SB 225 unanimously, 50-0, in June 2025; the bill remains under consideration in the House.⁷

Other Pennsylvania proposals include Senate Bill 1098, introduced by Senator Kristin Phillips-Hill, which would amend Title 26 (Eminent Domain) of the Pennsylvania Consolidated Statutes to provide fairer compensation when permanently preserved agricultural land is acquired through eminent domain for nonagricultural use. House Bill 1464, introduced by Representative Tarah Probst, would also amend Title 26 to strengthen compensation protections for farms and other property owners.

⁷ Pennsylvania General Assembly, SB 225, PN 377 (2025-2026); Senate Journal, June 10, 2025. The Senate passed SB 225, 50-0; sponsorship materials identify Pennsylvania Farm Bureau support.

Protecting private property requires attention not only to when government or a utility may take property, but also to whether the owner is made genuinely whole when a taking cannot be avoided.

Luzerne County: The Complexity of the Issue

My recent conversations with farmers and landowners in Luzerne County reinforced why data center and transmission policy does not lend itself to simple answers. I did not encounter a uniform view.

Individual landowners in Luzerne County have been faced with the potential impact of two different proposed utility corridors for future data centers.

Some landowners had signed utility easements years earlier that are now becoming relevant as new transmission routes are considered. In one situation described to me, a previous owner of a neighboring property had granted an easement during a period when that previous owner suffered from financial difficulty. Power company PPL is now seeking additional property rights from an adjoining farmer because the existing easement does not provide sufficient width for the proposed transmission crossing.

Another Luzerne County farmer told me that existing power lines on his farms were manageable and not especially difficult to farm around. In the same conversation with this farmer there was also recognition that data center development may offer local tax revenue and other economic benefits to his community.

These perspectives matter, and the complexity and differences of opinion are the point. Luzerne County is not a simple story of farmers versus data centers or landowners versus utilities. Good policy must be flexible enough to accommodate the farmer who wants to grant an easement, the farmer who can comfortably work around a power line, and the farmer who does not want new infrastructure imposed on land he or she intends to continue farming.



Opposition in Luzerne County extends beyond data center sites to the transmission infrastructure associated with new electric demand.

Landowners can experience infrastructure impacts even when a data center itself is located elsewhere. Photo by Andy Bater.

Regional Transmission: Kammer-Juniata

Much of PJM's extraordinary growth in data center electric load has been concentrated in Northern Virginia, while demand is also projected to increase rapidly in Pennsylvania. The proposed Kammer-Juniata line is part of PJM's regional transmission planning process.

Project materials describe roughly 221 miles of 765-kV transmission from West Virginia to the Juniata substation in Perry County, including a substantial segment across Pennsylvania.⁸

The proposed Kammer-Juniata should not be characterized as a line dedicated exclusively to data centers as PJM has identified broader reliability drivers. However, the Pennsylvania Office of Consumer Advocate stated that the project was selected in large part to accommodate projected data center demand elsewhere in the PPL zone.⁹ The case demonstrates how large new loads can translate into transmission consequences far from the data center itself.¹⁰

Allenwood: When Infrastructure Policy Becomes Personal

PPL has been evaluating approximately nine miles of new 230-kV electric transmission infrastructure in the Allenwood area to serve new customer demand for one data center. For the farmers whose land may be crossed, the issue is not theoretical.¹¹

At a July Pennsylvania Farm Bureau event on Terry Snoddy's farm, farmers described concerns about routing, easements, construction impacts, and the long-term effect of transmission infrastructure on working farms. The response to the Allenwood situation extended well beyond the immediate community.¹²

Many of the impacted farms in the Allenwood area have accepted permanent farmland preservation development restrictions to keep their land in agriculture but now face the prospect of a new transmission line crossing that preserved landscape.¹³

The Allenwood area carries unusual historical resonance. During World War II, the federal government acquired thousands of acres in the White Deer Valley for the Pennsylvania Ordnance Works, displacing farms and communities around Alvira. That history does not determine today's policy, but it helps explain why another major infrastructure taking can carry particular weight for families whose landscape has already experienced government-directed transformation.¹⁴

The Allenwood experience helped crystallize my view that infrastructure serving data centers must be evaluated as part of the data center footprint, not as a separate afterthought.

⁸ PJM, "2025 RTEP Window 1, Proposal 237, Kammer to Juniata"; additional materials: NextEra Energy Transmission and Exelon project materials.

⁹ Pennsylvania Office of Consumer Advocate letter to PJM, Jan. 21, 2026.

¹⁰ A separate NextEra project, the MidAtlantic Resiliency Link (MARL), an approximately 105-mile, 500-kV project with a comparatively short segment in Pennsylvania would cross southwestern Pennsylvania toward Virginia. It was selected through an earlier PJM process and should not be conflated with Kammer-Juniata, but it provides additional context for the scale of regional west-to-east transmission development. PJM 2022 RTEP Window 3 materials.

¹¹ PPL Electric Utilities, Allenwood Transmission Project materials.

¹² Pennsylvania Farm Bureau-provided platform metrics. PFB reported approximately 2 million views of its Terry Snoddy video across Facebook, TikTok, and Instagram, including 1,662,382 on Facebook and 314,400 on TikTok.

¹³ Based on the author's June 2026 visits and conversations with affected Allenwood-area farm families.

¹⁴ Thomas T. Taber Museum of the Lycoming County Historical Society, "Alvira and the Ordnance: An American Dream...Denied."

Allenwood also illustrates why existing public infrastructure corridors should be evaluated before new routes are imposed on productive farmland. In a July 6 letter to the warden of the Federal Correctional Complex Allenwood, I asked whether the existing electric transmission corridor crossing the federal reservation could be utilized as an alternative. The prison complex lies near the center of PPL's routing study area, while several routes generating the greatest concern among neighboring farmers are located to the south. The broader point is that, where practical, existing public infrastructure corridors should be part of the alternatives analysis when they may reduce impacts on farms, agricultural conservation easements, and private property.¹⁵

What a Transmission Line Can Mean to a Farm

The agricultural impact of a transmission line cannot be measured simply by the acreage occupied by towers or an easement. A farm is an operating system, and changing one part of it can affect how the entire property functions.

Construction can compact productive soils, mix topsoil and subsoil, alter surface or subsurface drainage, damage conservation improvements, and create impacts beyond the immediate electric tower footprint.¹⁶ On sloping Pennsylvania farmland, towers, access routes, and rights-of-way can interfere with established conservation systems such as contour farming, strip cropping, terraces, and grassed waterways.¹⁷

Overhead conductors and towers can also restrict aerial agricultural operations, including conventional aerial application and agricultural drones.¹⁸ Permanent structures can alter field patterns and create additional obstacles for increasingly automated farm machinery. As agriculture becomes more dependent upon precision equipment and autonomous technologies, easement and damage assessments should consider not only how a farm operates today, but whether permanent infrastructure may constrain how it can operate decades from now.¹⁹

The consequences can also depend heavily on what a particular farm produces. In Fayette County, I visited a farmer whose operation includes raising trees for seed used by Christmas tree growers. Tall trees and overhead transmission lines are an inherently difficult combination. During a separate visit to Luzerne County, I encountered a remarkably similar concern: a farm that produces Christmas trees could be affected by a new transmission line.

These are different farms, in different parts of Pennsylvania, affected by different transmission proposals. Yet they illustrate the same problem. **A transmission easement measured in acres or feet of right-of-way does not necessarily measure its agricultural impact.** The significance depends upon what is grown there, how the farm operates, and what the easement prevents the farmer from doing in the future.

¹⁵ Andy Bater, letter to Gary Swaney, Complex Warden, Federal Correctional Complex Allenwood, July 6, 2026. The letter asked whether the existing transmission corridor across the federal reservation had been fully evaluated while expressly recognizing Bureau of Prisons operational, security, and mission requirements.

¹⁶ Wisconsin Department of Agriculture, Trade and Consumer Protection, North Appleton to Morgan Transmission Project Agricultural Impact Statement (2014), discussing construction-related agricultural impacts including soil compaction, topsoil/subsoil mixing, and drainage effects.

¹⁷ Wisconsin Department of Agriculture, Trade and Consumer Protection, Cardinal-Hickory Creek Electric Project Agricultural Impact Statement (2019), discussing effects of transmission construction and rights-of-way on agricultural land and conservation practices.

¹⁸ Purdue Extension, "The Evolution of Spray Drones, Their Capabilities and Challenges for Pesticide Applications," ch. 7 (2026).

¹⁹ Chen, Z., Yin, J., Farhan, S. M., Liu, L., Zhang, D., Zhou, M., & Cheng, J. (2026). A comprehensive review of obstacle avoidance for autonomous agricultural machinery in multi-operational environment. *Artificial Intelligence in Agriculture*, 16(1), 139-163.



A Fayette County farmer whose operation includes raising trees for seed used by Christmas tree growers discusses the potential effects of the Kammer-Juniata transmission project. During a separate visit to Luzerne County, I heard similar concerns involving a Christmas tree operation and proposed transmission infrastructure. Photo by Andy Bater.

There is also an impact that is harder to quantify. For many farmers, land is not simply a productive asset; it represents generations of work, investment, and stewardship. The beauty of well-managed farmland and its agricultural productivity are often products of the same stewardship. Fields following contours, maintained waterways, healthy soils, orchards, fences, and improvements made by one generation for the next are both functional and visual evidence of care.

Barron Shaw's account in the Center for Rural Pennsylvania hearing underscores the limits of measuring impact only by the land physically occupied by a structure. His family chose to preserve development rights on its 220-acre orchard because they wanted the land to remain a farm. Shaw has described the farm, which has been in his family since the 1830s, as its “oldest family member.” That language captures something conventional appraisal methods can struggle to measure: for a multigenerational farm family, the land is simultaneously a productive asset, a business platform, a conservation commitment, and an inheritance intended for generations not yet farming it.

None of this means transmission lines and agriculture cannot coexist. Farmers I spoke with in Luzerne County described existing lines they can work around successfully. The effects vary by farm, enterprise, topography, tower placement, construction practices, and technology. That variability matters. **A transmission line that creates relatively minor disruption on one farm may materially affect the operation, productivity, or future options of another.** Policy should evaluate agricultural impacts farm by farm rather than assume that successful coexistence in one setting establishes that impacts elsewhere will be insignificant.

Noise and Livestock Operations

Data centers can produce continuous noise from cooling systems, fans, transformers, and other mechanical equipment. Facilities incorporating onsite electric generation may introduce additional noise from natural-gas turbines, while backup diesel generators can create intermittent periods of substantially different sound.

Data center noise has already generated complaints in established markets. Virginia's Joint Legislative Audit and Review Commission found that the constant, low-frequency character of some data center noise can create unique community impacts and recommended sound modeling and enforceable standards.²⁰ More recent reporting from Northern Virginia has also described complaints involving onsite gas turbines and emergency diesel generators.²¹

Noise should also be considered as a potential agricultural impact when data centers or associated generating facilities are proposed near livestock operations. Peer-reviewed research demonstrates that cattle can exhibit behavioral and physiological responses to noise, including avoidance behavior, increased movement, elevated heart rate, and other indicators of stress. The response can vary with the intensity, frequency, duration, predictability, and character of the sound, making the circumstances of the individual agricultural operation important to the analysis. Livestock operations therefore should be evaluated as agricultural receptors in their own right rather than relying exclusively upon noise standards developed around human residential receptors. Where livestock operations are located near a proposed facility, acoustic analysis should consider barns, pastures, milking facilities, and other areas where animals are routinely housed or managed, particularly where onsite power generation is proposed.²²

Water Is a Local Resource

Pennsylvania is generally a water-rich state, but substantial new demand can still have local consequences. The relevant question is not how much water Pennsylvania possesses in aggregate, but whether sufficient water is available in a particular watershed or aquifer, at a particular time, without adversely affecting agriculture, households, existing businesses, or natural resources.

A farmer I spoke with in Luzerne County described changes she has observed over her lifetime as industrial water use increased in the area, including diminished flows in natural features such as waterfalls. Her observation does not establish the cause of those changes or predict the effect of a particular data center. It does illustrate why residents who have watched local water resources change over decades may reasonably ask what another major industrial user could mean for their community.

Those are among the questions Penn State is now examining through its interdisciplinary Data Centers in Pennsylvania Research and Extension Network. Its research agenda includes water availability and recharge, drought and climate variability, cumulative withdrawals, potential competition with agricultural and domestic users, and alternatives such as recycled wastewater, abandoned-mine water, dry or hybrid cooling, and more efficient cooling technologies.²³

²⁰ Virginia Joint Legislative Audit and Review Commission, *Data Centers in Virginia* (Dec. 2024), ch. 6.

²¹ Debbie Williams, "Sterling Resident Says Data Center's Generators Produced Excessive Noise, Pollution," *Northern Virginia Magazine*, July 21, 2026.

²² Sabina Angrecka, S., et al. "Noise as a factor of environmental stress for cattle - A review," *Annals of Animal Science* 23(3) (2023).

²³ Aaron Cook, PhD, "Data Centers and Water Research Questions", Penn State College of Agricultural Sciences, *Data Centers in Pennsylvania Research and Extension Network*, July 22, 2026.

The policy question is therefore not whether data centers “use too much water.” It is whether Pennsylvania has sufficient information and safeguards to ensure that new demand is appropriate for the particular place, water source, technology, and conditions involved.

Preferred Siting, Remediation, and Community Benefits

A durable Pennsylvania policy should do more than identify places where large-scale data centers create unacceptable conflicts. It should also create incentives to direct investment toward locations where development can solve existing problems or produce measurable public benefits. Brownfields, former industrial properties, previously disturbed lands, and sites with access to existing transmission and other infrastructure may offer opportunities to accommodate development while reducing pressure on productive farmland and undeveloped rural landscapes.

Former mining regions may present a particularly useful opportunity. Where technically, economically, and environmentally feasible, data center development could be paired with reclamation of brownfields or abandoned mine lands and with treatment and beneficial reuse of acid mine drainage or other impaired mine water. Properly structured, such projects could reduce competition for potable or agricultural water, help finance treatment of legacy mine pollution, and turn a substantial new industrial water demand into part of an environmental-remediation strategy. These possibilities require site-specific hydrologic and environmental review; they should be encouraged where they create a demonstrable net benefit rather than treated as a universal solution.

It should be noted that former mine land is not automatically a low-conflict location. Archbald Borough in Lackawanna County, a community shaped by former coal mining, has faced intense opposition to six proposed data center campuses. Residents have raised concerns about proximity to homes, the scale of development, environmental effects, transparency, and displacement.²⁴

Pennsylvania should also consider mechanisms to ensure that communities hosting large-scale data centers receive durable and measurable benefits commensurate with the infrastructure and land-use burdens they assume. Community Benefit Agreements or comparable arrangements can provide for data center developer funded investments in local infrastructure, workforce development, emergency services, conservation, water-resource improvements, agricultural preservation, or other locally identified priorities.²⁵ Such agreements should supplement—not substitute for—appropriate siting, environmental review, infrastructure planning, protection of private property rights, and fair allocation of project costs.

Together, preferred siting, environmental remediation, beneficial water reuse, and community-benefit mechanisms offer a positive-development pathway: Pennsylvania can not only reduce the harms associated with rapid data center growth but deliberately steer private investment toward projects that leave host communities and landscapes better positioned for the future.

Rural Municipalities Face Expertise and Time Disadvantages

Large data center proposals can require expertise in zoning, land use, water, stormwater, noise, emergency response, electrical infrastructure, decommissioning, finance, and environmental review.

²⁴ Rebecca Egan McCarthy, “Six data center campuses are planned for just one Pa. borough. Residents are fighting back,” *Grist/Spotlight PA*, Mar. 19, 2026; Kat Bolus, *WVIA*, reporting on Archbald data center proposals, 2026. The example reinforces the need for site-specific review even when land is previously mined or disturbed.

²⁵ Vincent Nolette, *Community Benefits Agreements and Data Center Development*, Columbia Law School, May 28, 2026.

Many rural municipalities operate with small staff, part-time solicitors, and volunteer planning commissions.²⁶

Salem Township Code Enforcement Officer Brian Rhone described the challenge directly at the Center for Rural Pennsylvania hearing. His municipality had no regulations designed specifically for hyperscale data centers and had to confront a large set of technical and regulatory questions as proposals arrived. His summary was concise: “We don’t have the staff to deal with it.”²⁷

Agricultural communities face additional complications. Township supervisors, planning commissioners, and zoning officials are frequently farmers and local landowners themselves. A sufficiently large development or transmission project may create personal or financial interests requiring officials to seek legal advice about participation or possible recusal. A small municipality can therefore lose some of its most knowledgeable agricultural voices precisely when that knowledge is most needed.

These experiences have prompted legislative responses. State Representative Jamie Walsh from Luzerne County has proposed planning and zoning standards for commercial data centers.²⁸ These legislative proposals reflect the same concern I heard locally: municipalities need workable tools and sufficient time to address an unusually complex form of development.

Small communities should not have to develop complex data center policy for the first time while simultaneously responding to a major development proposal already before them.

Transparency, Municipal NDAs, and the Information Gap

Municipal capacity is also a transparency issue. Data center developers sometimes seek nondisclosure agreements before discussing projects with public officials. There can be legitimate reasons to protect narrowly defined proprietary or commercially sensitive information during site selection. But broad confidentiality agreements can leave elected officials unable to explain consequential development discussions to the residents they represent. Spotlight PA reported in August 2026 that public-records requests identified at least eight nondisclosure agreements signed by township, county, or Shapiro Administration officials in connection with data center projects.²⁹

Pennsylvania has begun responding to that concern. Governor Shapiro’s August 18 executive order states that nondisclosure agreements are not permissible for data center projects receiving Commonwealth consideration under the new framework.³⁰ Senate Bill 1408, introduced in July, would go further by making agreements unenforceable when they prevent a public agency from disclosing information about the construction, development, or location of a data center.³¹

The information problem can be even more immediate for neighboring landowners. In Luzerne County, farmers described being approached by land agents - often called landmen - about easements or

²⁶Center for Rural Pennsylvania, “Supporting Local Decision-Making for Data Center Development,” public hearing, July 29, 2026.

²⁷Dave Lefever, “Rural Pennsylvania Data Center Hearing Draws Diverse Perspectives,” Lancaster Farming, July 30, 2026; Center for Rural Pennsylvania hearing, July 29, 2026.

²⁸Pennsylvania General Assembly, PA HB 2516 introduced by Rep. Jamie Walsh, for planning, zoning, agricultural-land protections.

²⁹Kate Huangpu, “Data center developers are pushing Pa. government officials to sign secrecy agreements. At least some are saying yes,” Spotlight PA, Aug. 19, 2026. Spotlight PA reported finding at least eight NDAs signed by township, county, and Shapiro Administration officials through public-records requests.

³⁰Commonwealth of Pennsylvania, Executive Order 2026-05 and accompanying data center announcement, Aug. 18, 2026 (stating that nondisclosure agreements are not permissible for data center projects).

³¹Pennsylvania General Assembly, SB 1408, PN 1891 (2025-2026), Data Center Nondisclosure Agreement Prohibition Act.

property rights for electric transmission lines. Unfortunately, those same farmers struggled to obtain clear technical information about the projects those rights would serve. Some described unanswered questions or difficulty obtaining direct responses from utilities about routes and potential impacts. Brenda Rizzo, whose Sugarloaf Township farm is near PPL's proposed transmission upgrades, described difficulty obtaining enough information to understand precisely how her property could be affected.³² A landowner should not have to decide how to respond to an easement request while basic information about the underlying project remains uncertain.

Pennsylvania Is Already Considering a Broader Framework

Pennsylvania policymakers are considering several additional approaches to the data center information gap. House Bill 2496, sponsored by Representative Paul Friel, would amend the Municipalities Planning Code to provide a temporary pause on data center proposals while municipalities address their land-use rules. The House passed the measure 201-1 in June 2026.³³ The Senate Local Government Committee subsequently amended the bill, and the current version remains before the Senate.³⁴

Other legislative proposals address different parts of the policy framework. House Bill 2650, sponsored by Representative Joe Webster, would replace future certifications under the existing Computer Data Center Equipment Incentive Program with a new Governor's Responsible Infrastructure Development (GRID) certification and standards framework.³⁵ House Bill 2198, sponsored by Representative Greg Vitali, would repeal the Computer Data Center Equipment Incentive Program and associated sales-tax benefits for data center equipment. It passed the House 197-5.³⁶ Both bills are pending in the Senate Finance Committee.

Taken together, these measures illustrate that Pennsylvania is not considering a single response to data center growth. The General Assembly is simultaneously debating municipal planning time, statewide development standards, infrastructure and community protections, and the tax treatment of the industry. The proposals are not interchangeable, but collectively they demonstrate that the Commonwealth's policy framework is still evolving.

That continuing legislative activity is itself relevant to the moratorium discussion. A temporary pause is not necessarily cost-free, and communities may reasonably worry that delay could cause investment or potential tax revenue to move elsewhere. But the breadth of pending proposals also underscores why the scope, duration, and purpose of any pause deserve careful consideration.

Decommissioning, Financial Assurance, and Cumulative Responsibility

Data center policy should look beyond initial construction to the full lifecycle of a facility. Specialized buildings, substations, cooling and water systems, backup generation, security infrastructure, and associated transmission may remain for decades. Technology can also change rapidly, raising the

³² Kat Bolus, "Residents testify against electrical transmission upgrade project planned for data centers in Luzerne County," WVIA, July 2, 2026. Rizzo owns approximately 100 acres of farmland in Sugarloaf Township and testified about PPL's proposed infrastructure upgrades. The description of her difficulty obtaining sufficient project information also reflects my subsequent conversation with her.

³³ Representative Walsh also successfully offered an amendment to Representative Paul Friel's House Bill 2496 intended to preserve municipalities' ability to use Pennsylvania's curative-amendment process in conjunction with a temporary pause. The House adopted that amendment unanimously.

³⁴ Pennsylvania General Assembly, HB 2496 PN 3727 (2025-2026 Regular Session), bill history and votes, accessed August 31, 2026.

³⁵ Commonwealth of Pennsylvania, Legislation to Codify Governor Shapiro's GRID Standards into Law Passes House of Representatives with Overwhelming Bipartisan Support, June 24, 2026.

³⁶ HB 2198 PN 3694 passed the House 197-5 on June 25, 2026; accessed September 1, 2026.

possibility that facilities or equipment could become obsolete, uneconomic, or abandoned before the end of their anticipated useful lives.³⁷

Pennsylvania should determine before construction begins who will be responsible for decommissioning a data center if it ceases operation, what restoration standards will apply, and what financial assurance should be required so those obligations do not ultimately fall upon landowners, municipalities, or taxpayers. Depending upon the circumstances, appropriate mechanisms could include bonding, escrow, letters of credit, or other forms of financial assurance supported by periodically updated independent estimates of decommissioning and restoration costs.

Pennsylvania has recently addressed essentially this problem for another rapidly developing land use. Act 44 of 2026 establishes decommissioning and financial-assurance requirements for certain solar energy facilities on leased property, including decommissioning plans, periodic updates to estimated costs, and financial assurance over the life of the facility. Data centers present different technologies and circumstances, and the solar framework should not simply be copied. But the underlying principle is relevant: **the financial responsibility for eventually removing obsolete private infrastructure and restoring affected land should be established while the project is viable, rather than after the owner has disappeared, reorganized, or become insolvent.**³⁸

The specific infrastructure may change over time, but the landowner's neighbors must live with the long-term consequences of decisions made when a project is approved.

The same long-term perspective is necessary at the regional level. A decommissioning conversation may appear manageable when it's for a single project evaluated in isolation. Multiple data centers, transmission corridors, generation projects, water withdrawals, and municipal demands can create cumulative effects that no individual permitting decision captures. A temporary policy pause would create an opportunity to consider both ends of the development cycle: what infrastructure Pennsylvania is willing to permit today, and who will be responsible for it when it is no longer needed.

Pennsylvania's Tax Structure May Not Capture the Promised Data Center Revenue

Data centers are frequently promoted to communities on the basis of substantial investment, construction activity, employment, and increased tax revenue. Those benefits can be real. Data center construction creates substantial work for skilled trades, including electricians, pipefitters, HVAC workers, and other construction occupations. Organized labor and construction trade groups have increasingly emphasized those jobs as an important economic benefit of continued data center investment. That benefit should be recognized while also distinguishing the large construction workforce required to build a facility from the considerably smaller permanent workforce typically needed once it is operating.³⁹

Tax revenue, however, requires a particularly Pennsylvania-specific analysis. Communities here should not assume that the extraordinary local tax revenues reported in major data center markets such as Northern Virginia will occur here, because Pennsylvania's local tax structure is different.

At the July 29 Center for Rural Pennsylvania hearing, Fayette County Commissioner Scott Dunn cautioned specifically against making that comparison. Northern Virginia localities can generate

³⁷ Kara Manke, UC Berkeley, August 11, 2026, "Why we don't need more data centers to build better AI", Instead of power-hungry AI models, experts argue that smaller and more efficient open-source technologies are the way of the future.

³⁸ Act 44 of 2026, 27 Pa.C.S. ch. 43, enacted July 20, 2026.

³⁹ Lindsay Ellis and Amrith Ramkumar, "Blue-Collar Jobs Are the New Flashpoint in Data-Center Fight," Wall Street Journal, Aug. 28, 2026.

substantial revenue by taxing data center equipment and other business personal property in ways Pennsylvania municipalities generally cannot. A multibillion-dollar data center investment therefore does not automatically translate into a correspondingly large local tax base for the Pennsylvania community hosting it.⁴⁰

That distinction should be understood before municipalities make land-use decisions or evaluate promised economic benefits. Pennsylvania should develop credible estimates of the actual state, county, municipal, and school-district revenues likely to result under Pennsylvania law and compare them with public costs involving electric generation and transmission, water and wastewater systems, roads and emergency services, municipal legal and technical work, incentives or exemptions, landowner impacts, and potential ratepayer exposure.

Extraordinary New Electric Demand Should Bear Its Own Costs

Pennsylvania regulators are already addressing part of this question. In May 2026, the Public Utility Commission advanced a model tariff for very large electric loads built around the principle that extraordinary new electric demand should bear the costs it creates rather than shifting those costs broadly to other customers.⁴¹ Governor Josh Shapiro's GRID requirements similarly emphasize developer responsibility for infrastructure costs, local approval, transparency, and energy and water reporting.⁴²

That principle extends beyond electricity rates. Large-scale data center development can require transmission upgrades, generation, water infrastructure, roads, emergency-service capacity, and other public or quasi-public investments. Pennsylvania should be clear about which costs are properly borne by developers and customers creating the new demand, which may reasonably be shared more broadly, and which should not be transferred to existing residents, ratepayers, taxpayers, or neighboring landowners.

Getting that allocation right is important both for fairness and for sound economic development. A project may still provide substantial public benefits even when it pays the full incremental costs it creates. Conversely, apparent economic benefits can be overstated if significant infrastructure costs are quietly shifted to others.

Public Concerns About Data Centers Have Increased

Recent polling suggests that public concern about data center development is increasing. An August 2026 Franklin & Marshall College Poll found that 79 percent of Pennsylvania registered voters opposed having a data center built in their community.⁴³ A July 2026 Quinnipiac University poll found a similar result, with 74 percent opposing an AI data center in their community.⁴⁴

National research by the University of Pennsylvania's Annenberg Public Policy Center found a similar and rapidly changing pattern. Opposition to construction of a data center in one's area increased from

⁴⁰Scott Dunn, Fayette County Commissioner, testimony before the Center for Rural Pennsylvania, "Supporting Local Decision-Making for Data Center Development," July 29, 2026.

⁴¹ Pennsylvania Public Utility Commission, Final Order, Interconnection and Tariffs for Large Load Customers, Docket M-2025-3054271, adopted Apr. 30, 2026, entered May 12, 2026.

⁴² Commonwealth of Pennsylvania, Executive Order 2026-05 and GRID requirements, Aug. 18, 2026.

⁴³ Franklin & Marshall College Poll, August 2026 release: 79% of Pennsylvania registered voters opposed having a data center built in their community; 84% favored closer federal regulation of AI companies.

⁴⁴ Quinnipiac University Poll, July 15, 2026: 74% opposed an AI data center in their community.

49 percent earlier in 2026 to 61 percent four months later, while broader views of AI remained statistically unchanged.⁴⁵

Concern about data centers also crosses conventional ideological lines. An August 2026 Fox News opinion piece by Consumers' Research Executive Director Will Hild argued that the industry risks undermining public support for America's AI ambitions if consumers believe they are being asked to absorb electricity, water, noise, and other local impacts without clear community benefits. The argument was not against AI or data centers; it was that continued development requires greater attention to host communities.⁴⁶ The distinction matters.

Growing bipartisan resistance appears increasingly directed toward the physical infrastructure and local consequences of data center development rather than simply toward artificial intelligence itself.

The Data Center Debate Is Also a Debate About AI Governance

The data center debate is occurring within a broader public discussion about how quickly society should adopt powerful technologies before their secondary effects are fully understood. That does not make every concern about AI relevant to data center siting, but the governance lesson is worth considering.

Recent commentary from institutions and individuals that are broadly optimistic about AI has nevertheless emphasized the need to anticipate disruption and establish safeguards. Bill Gates, for example, has argued that AI could produce extraordinary benefits while also creating major challenges involving employment, inequality, cybersecurity, education, and social adaptation.⁴⁷

The recent multistate settlement with Meta over allegations concerning harms to young social-media users provides a useful governance caution. Social media and AI are related and yet different technologies, and the settlement is not evidence about data centers. However, the relevant lesson is that many people worry society may again adopt powerful technology rapidly, defer safeguards, and respond only after harms have become widespread or difficult to reverse.⁴⁸

We should apply the lessons of social media to AI before problems become entrenched. Supporting AI does not require waiting for harms or infrastructure conflicts to emerge before establishing appropriate safeguards.

That is especially important for the physical infrastructure supporting AI. Transmission corridors, farmland conversion, water use, and new energy infrastructure can be difficult or impossible to undo once built.

AI and Agriculture Are Both Strategic Infrastructure

We have a strategic interest in maintaining leadership in artificial intelligence rather than ceding technological and economic advantage to international competitors. If AI becomes as foundational as many expect, we should not allow the computing capacity required to develop and operate advanced systems to become a capability on which we are substantially dependent when that capability resides in countries whose interests and values may differ sharply from our own.

⁴⁵ Annenberg Public Policy Center, University of Pennsylvania, "Opposition to Local Data Centers Rises Sharply, Annenberg Survey Finds," Aug. 11, 2026.

⁴⁶ Will Hild, "Data centers forgot the consumer—and that could cost America the AI race," Fox News Opinion, Aug. 27, 2026.

⁴⁷ Bill Gates, "The turbulent AI era is here. The choices we make now are critical," GatesNotes, Aug. 2026.

⁴⁸ Pennsylvania Office of Attorney General, announcement of proposed multistate settlement with Meta, Aug. 26, 2026. The settlement was subject to court approval and did not constitute an admission by Meta.

We have learned versions of this lesson before. Disruptions involving energy, fertilizer, critical minerals, semiconductors, pharmaceuticals, and other essential products have demonstrated that economic efficiency is not the only consideration when deciding where strategically important productive capacity should reside. When capability or input becomes essential, excessive dependence on fragile or foreign supply chains can become an economic and national-security vulnerability.

The lesson is that both technology and agriculture involve productive capacities that become strategically important when a nation cannot readily substitute for them in a crisis.



Technology and agriculture are not opposing interests. Moderating a farmer-to-farmer discussion on agricultural robotics at the FIRA Robotics Village during Penn State Ag Progress Days in August 2026. The challenge is not choosing between AI and agriculture but developing policies that allow both to succeed. Photo courtesy of Andy Bater.

Agriculture is also strategic infrastructure. Domestic food production depends upon a finite land base, reliable and affordable energy, water, functioning rural communities, and the ability of farmers to make long-term investments in their land and businesses. The same strategic logic that argues for maintaining domestic AI capability should therefore shape how we think about agriculture. We benefit from retaining both the computing infrastructure required for advanced technology and the productive land capacity required for a secure domestic food supply. **Sound data center policy should not unnecessarily sacrifice one strategic asset in the process of building another.**

Public Understanding of AI is Also Important

Public opposition to the physical impact of data centers should not be interpreted as the only political obstacle to development. Communities are being asked to form opinions about artificial intelligence, data centers, electric generation and transmission, water use, economic development, and local land-use consequences at a time when many of these technologies and relationships are poorly understood.

Better public understanding of artificial intelligence may strengthen legitimate concerns in some cases and alleviate them in others. Either outcome would improve public decision-making.

This educational challenge and need for community understanding is one reason I have been involved in organizing Penn State's FAIR (Futures of AI in Rural Education) initiative. FAIR I, which I co-organized in late 2025, brought together educators, administrators, policymakers, researchers, and community leaders to examine the implications of artificial intelligence for rural education with a K–12 focus. It resulted in both a summit report and a separate policy report translating stakeholder discussions into recommendations involving governance, infrastructure, privacy, transparency, workforce development, and education. Notably, FAIR I participants were already discussing the potential benefits of rural data centers alongside their substantial water and energy requirements.

Our FAIR II event, scheduled for November of 2026, expands that work through the concept of Community AI Literacy: the capacity of communities to assess both the benefits and liabilities of AI across the full AI stack, including the energy production and data center distribution infrastructure that supports it. FAIR II will bring together stakeholders from K-12 education, healthcare, small and mid-size businesses and farms, and local administration to identify community needs and develop policy recommendations for state and national organizations.⁴⁹

Pennsylvania Is Already Beginning to Answer These Questions

Pennsylvania's data center policy environment has changed quickly in 2026. The PUC's large-load tariff work, the Governor's executive order, and legislative proposals addressing municipal planning, development standards, tax policy, and infrastructure responsibility demonstrate that the Commonwealth is actively developing new approaches.

The Governor's executive order also seeks to discourage speculative data center proposals that may lack a committed technology customer, financing, or a viable power supply. That concern is particularly relevant to rural communities and landowners who may be asked to make consequential land-use and infrastructure decisions long before it is clear that a proposed project will actually be built.⁵⁰

That evolution is important. It suggests that the underlying concern behind possible temporary moratoriums—that existing frameworks deserve review before development reaches full scale—is not an isolated one.

Moratorium Discussions Are Not Unique to Pennsylvania

Temporary pauses on data center development are increasingly being used by local governments as a means of creating time to develop appropriate land-use and infrastructure policies. In August 2026, the National League of Cities reported that at least 76 cities, counties, and towns had attempted to impose either moratoriums or permanent bans on data center development, with most of those efforts succeeding.⁵¹ The organization cautioned that the actual number is likely higher because local policy actions are changing rapidly. A separate Georgia Tech tracker identified almost 40 local governments in Georgia alone that had approved some form of moratorium.⁵²

These actions vary considerably in purpose, duration, and scope. Charlotte, North Carolina, for example, unanimously adopted a 150-day moratorium on new data centers while exempting existing projects. Some jurisdictions have used temporary pauses while developing zoning standards,

⁴⁹ Dr. Gerald K. LeTendre, FAIR II Summit Overview, Aug. 25, 2026.

⁵⁰ Katie Meyer, "What Shapiro's new data center order does — and doesn't — force developers to do," Spotlight PA, Aug. 25, 2026.

⁵¹ National League of Cities, "Data Center Local Action Tracker," Aug. 11, 2026.

⁵² Chris Teale, "Many Localities Have Tried Data Center Moratoriums, Tracker Finds," Route Fifty, Aug. 28, 2026.

evaluating infrastructure and utility impacts, or determining what conditions should accompany future development.⁵³ Still others have cautioned that blanket municipal and state moratoriums are inadequate long-term policy mechanisms, and for them to work “there must also be time spent gathering data, enhancing transparency, and creating greater collaboration among legislators, industry, and community residents.”⁵⁴

These examples do not prove that a moratorium is appropriate for Pennsylvania. They do show that a temporary pause is an established planning tool when governments conclude that rules have not kept pace with a rapidly changing industry. Properly designed, a moratorium need not represent opposition to data centers or artificial intelligence; it can provide a defined period in which government establishes rules for a rapidly developing land use before decisions with long-lived consequences become difficult or impossible to change.

Any temporary moratorium should remain open to evidence and be judged by whether it produces better permanent policy.

The Pennsylvania Farm Bureau Interim Moratorium Policy

The experiences I have recounted in this document ultimately led me to recommend that the Pennsylvania Farm Bureau Board of Directors adopt interim policy supporting a temporary, limited moratorium on large-scale data center development.⁵⁵ The Board voted on July 28, 2026 to unanimously adopt the following policy.⁵⁶

“Pennsylvania Farm Bureau supports a temporary, limited moratorium on large-scale data center development to allow for the development of policies that protect agriculture, private property rights, critical infrastructure, and rural communities while providing regulatory certainty for future investment.”

My recommendation was not a conclusion that data centers are unnecessary or inherently undesirable. Rather, it reflected the difficulty of reconciling several legitimate public interests at once—and my conclusion that Pennsylvania would benefit from time to develop a more coherent framework before development and its associated infrastructure become substantially more difficult to redirect.

What a Temporary Moratorium Could Accomplish

The most useful way to think about a possible moratorium is as a temporary and limited policy tool, not as an endpoint. Any proposal should be evaluated according to its duration, geographic scope, governmental level, and the specific work that would occur during the pause.

That distinction is important. Pending legislative proposals range from a statewide statutory moratorium to allowing municipalities to temporarily pause applications while they assess infrastructure capacity and appropriate land-use standards. Pennsylvania is also pursuing a different approach through the previously mentioned Governor Shapiro GRID requirements and Executive Order

⁵³ Bipartisan Policy Center, Key Considerations for Data Center Development, July 29, 2026.

⁵⁴ Nicol Turner Lee and Darrell M. West, Brookings Institution, “Data Center Moratoriums Are Not a Substitute for Oversight,” July 28, 2026.

⁵⁵ Some of the issues discussed in this report informed my July recommendation to the Board; other research, governmental actions, public-opinion data, and policy developments have emerged afterward and have helped test and refine that reasoning.

⁵⁶ The Pennsylvania Farm Bureau State Board acted collectively. The analysis and conclusions presented in this section and in this report are my own and should not be attributed to other Board members or the Board as a whole.

2026-05, which impose new conditions involving local approval, energy and water use, transparency, environmental protection, and community engagement without imposing a statewide moratorium.⁵⁷

The existence of several moratorium proposals does not mean that every proposal carrying that label is sound or that a moratorium must ultimately be Pennsylvania's preferred solution. The case for considering a pause is narrow: large-scale data center development is advancing while important questions involving agriculture, private property, energy infrastructure, water, municipal capacity, taxation, decommissioning, and other consequences remain unresolved. Any approach must be evaluated according to what can be accomplished during that time.

If Pennsylvania legislators choose to facilitate a temporary pause, whether statewide or locally enabled, the period should be used productively. State and local policymakers should use that time to establish a durable framework for responsible development and to resolve questions that are difficult to address project by project.

Regardless of whether any moratorium is ultimately enacted or how long it lasts, reforms identified in this report should continue to be considered on their own merits.

Possible Federal Actions of Note

Although many of these data center decisions rest with state and local government, federal energy, transmission, agricultural, infrastructure, and AI policies will also influence how and where this development occurs and who ultimately bears its costs. Congress is already considering legislation aimed at some of the same issues.

The Data Center Water and Energy Transparency Act of 2026, introduced in both chambers, would require reporting of data center energy and water use to states or federal agencies.⁵⁸ The more recently introduced Ratepayer Bill of Rights Act of 2026 would require disclosures involving electricity and water use, infrastructure costs, rate impacts, and public financial assistance for large data centers, while establishing a principle that project-driven costs should not be shifted to households, farms, small businesses, schools, and other existing ratepayers.⁵⁹

These proposals are early in the federal legislative process, but they demonstrate that transparency, resource use, cost allocation, and community participation are becoming national policy questions as well as state and local ones.

A Temporary Moratorium Would Not Halt AI Development

There is reason to further distinguish the local consequences of data center development from the national trajectory of artificial intelligence.

Princeton computer scientist Arvind Narayanan has argued, using an illustrative order-of-magnitude calculation, that state and local data center moratoria are unlikely to meaningfully slow overall AI progress because computing capacity is geographically substitutable and AI systems continue to become more efficient. By his estimate, even pausing all data center development in New York for a year would delay global AI development by only about one day.⁶⁰ The estimate is necessarily approximate, but it gives scale to the broader point: a temporary pause in one jurisdiction can provide

⁵⁷ Commonwealth of Pennsylvania, Executive Order 2026-05 and GRID requirements, Aug. 18, 2026.

⁵⁸ Data Center Water and Energy Transparency Act of 2026, S. 4213 and H.R. 9825, 119th Cong. (2026). S. 4213 was introduced Mar. 25, 2026; H.R. 9825 was introduced July 22, 2026.

⁵⁹ Ratepayer Bill of Rights Act of 2026, H.R. 10139, 119th Cong. (introduced Aug. 24, 2026). The bill applies to large data centers meeting specified electricity- or water-use thresholds and addresses disclosure, project-driven costs, reliability, water, public participation, and enforcement.

⁶⁰ Arvind Narayanan, https://x.com/random_walker/status/2091906235670925377, Aug. 24, 2026

time to address legitimate local infrastructure, environmental, agricultural, and property-rights concerns without amounting to a meaningful pause in American AI development.

A temporary moratorium also delays permitting rather than destroying computing capacity. Existing facilities continue operating, exempt projects may proceed, developers can adjust timing or location, and efficiency gains continue during the pause. The costs of delay may be real for particular projects and communities, but they should not be conflated with a comparable loss of national AI capability.

Let's Pause to Get the Policy Right

I support artificial intelligence, technological innovation, and the infrastructure necessary to sustain them. I also believe Pennsylvania agriculture and rural communities should not be required to absorb avoidable costs simply because technology is moving quickly.

The questions raised by data centers are not confined to the acreage inside a development site. They reach transmission corridors, farms, water resources, electric rates, municipal capacity, tax policy, opportunities for environmental remediation and community benefits, and the long-term character of rural communities. Many of those questions are only now being addressed.

A temporary, limited moratorium, where policymakers conclude one is warranted, need not represent a rejection of development. It can instead provide time for policy to catch up with the scale and speed of development.

The objective of any temporary moratorium should not be to make the pause permanent. It should be to reach a point where a pause is no longer necessary because Pennsylvania has established clearer rules that permit appropriate investment while protecting agriculture, private property, critical infrastructure, ratepayers, and rural communities.

Whether Pennsylvania ultimately uses a moratorium or reaches those goals through other policy tools, it should emerge with clearer rules for developers, stronger protections for agriculture and private property, better information for communities, and a more durable foundation for the AI infrastructure the Commonwealth and nation may need.

Pennsylvania should welcome the opportunities created by artificial intelligence, but it should not allow the speed of that technological transformation to outrun our ability to protect the farms, property owners, infrastructure, and rural communities that will live with its consequences for generations.

About the Author: Relevant Background and Experience

My perspective reflects more than 40 years of work involving technology, infrastructure, regulation, and public policy, combined with direct experience in agriculture and rural communities. I am a fourth-generation farmer, serve on the Pennsylvania Farm Bureau Board of Directors representing Centre, Clinton, and Lycoming counties, am a member of the Dean's Leadership Council for Penn State's College of Agricultural Sciences, and serve on the Advisory Committee of the Pennsylvania Food Policy Council.

My earlier career was in radio and television engineering, including digital communications, technical standards, regulatory policy, major technology transitions, and infrastructure recovery. That work included helping coordinate the broadcast industry's rebuilding of transmission infrastructure in New York City following the September 11, 2001 attacks, as well as infrastructure recovery work following Hurricane Katrina. It required understanding not only what new technology could do, but the physical systems, resilience, and public policy required to deploy and restore it.

From 2019 through 2024, I served on the FCC's Precision Agriculture Connectivity Task Force looking at technology mechanisms to enhance farm financial and environmental sustainability. In 2023, Microsoft researcher Ranveer Chandra—now Vice President of (AI) Frontier Tuning and CTO of Agri-Food at Microsoft—and I co-authored “The Crucial Role of Broadband in Empowering AI-Driven Agriculture,” published as Appendix B6 to the Task Force's final report.

I continue to work with Penn State on questions involving AI, agriculture, and public policy and have pursued advanced study of AI and emerging technology through Oxford, MIT, Purdue, Harvard, and Cornell. I also am a co-organizer of Penn State's FAIR initiatives examining AI in rural communities.

In April 2026, I presented in the Penn State Extension webinar “Data Centers: Agriculture Meets Hyperscale AI,” framing the issue around private property rights, agricultural production, grid reliability and affordability, and national AI and security infrastructure.

On July 29, 2026, I testified at the Center for Rural Pennsylvania Public Hearing on Supporting Local Decision-Making for Data Center Development. Highlights of my comments appear in the news report linked below.

<https://paenvironmentdaily.blogspot.com/2026/08/the-center-square-pennsylvania-farm.html>

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