

Written testimony of Barron Shaw
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Rural Affairs Center of Pennsylvania
Hearing on Data Center impacts on Rural Communities

July 29, 2026
10:00 AM Bloomsburg University, Bloomsburg PA

Thank you for the opportunity to submit testimony regarding the proliferation of data centers and the associated impacts on our rural communities.

I am an eighth generation farmer and a fourth generation fruit grower on our preserved orchard that straddles York County PA and Harford County MD. Shortly after I took over the farm, a new greenfield high voltage line was proposed across our farm and I became highly involved in the issue of grid and transmission planning. I led a group of farmers and homeowners in opposition of this line (the Transource IEC) in both Pennsylvania and Maryland where I represented myself pro se in front of the PUC and PSC. The project was proposed as a way to decrease the cost of electricity in the Washington DC area. Together with the Office of the Consumer Advocate (OCA) and MD Office of People's Council (OPC), we defeated the line, demonstrating that it was harmful to PA ratepayers and did not leverage existing infrastructure options. This experience formed the foundation of my testimony today and helped prepare me to understand and comment on the current issues surrounding grid planning.

My written testimony will cover the following areas:

- I. Property Rights
- II. Farmland Preservation
- III. Tax
- IV. Electricity Rates
- V. Local governance
- VI. Solutions

I. Property Rights:

The current state of affairs in PJM is this: a privately operated data center drawing as much power as a small city can request interconnection with the grid and if insufficient power is unavailable or if it causes a price differential of more than 25% at that interconnection, PJM *must* find a way to fill that need. Because PJM cannot order generation, the only solution is to build transmission lines from increasingly remote generators. According to PJM and current precedent, neither the land owner, the local government, nor the state has the right to say “no.”¹

¹ DeFrank v. Transource

Property will be seized and towers erected. If the line is >230kv, half of the cost will be paid by the beneficiaries of the line, and the other half will be paid for by the rest of us.

The eminent domain implications of this situation are immense. Eminent domain is intended for public use. There is a world of difference between a power line that supports an entire city ecosystem of homes and businesses and a single data center that supports a dozen permanent jobs. There is no comparison in the economic value between the two, and eminent domain powers should reflect that.

It is also worth noting that once a line is built, it is never removed. In our case in York County, we documented an abandoned high voltage line that ran north and south along the Susquehanna. The line was not being used, and had vines running all the way up the lattice work – yet the farmers in the area still needed to work around the structures and suffer the presence of the weeds that constantly encroached on their fields.

The property rights issue becomes even more important as PJM's archaic rules result in more and increasingly unlikely routes. For example, so much energy has drained from energy-rich central Pennsylvania, and so much data center development is proposed there, PJM projects a shortage. In order to supply those new loads, they have proposed a \$2B line 765v line running from West Virginia to Juniata², essentially using West Virginia coal to replace all the natural gas electricity that has been exported from Pennsylvania.

II. Farmland Preservation

In 2007, my parents preserved our orchard. This was a very difficult decision for them because it greatly diminished the value of our 220 acre farm. They included me in the decision, and I agreed because, like them, I never wanted to see the land be anything but a farm. Our farm is our oldest family member, and arguably the only family member that continues to look better with age.

When the time came to sign the documents, I was in the room. I remember saying to the state attorney that “forever is a long time.” She smiled, and agreed, saying that it was the state's intention to ensure that the land remained a beautiful farm forever.

Only ten years later, my land was threatened by a new PJM-sponsored interstate high voltage transmission line intended to decrease the cost of electricity in the Washington, DC metro area (the Transource IEC). Both the PA and MD consumer advocates were in strong opposition, as the increased cost to ratepayers in PA was exactly matched by the decreased costs in the DC market. Most pertinently to these proceedings, the MD Powerplant Research Program (PPRP) also opposed the project, and submitted testimony from Michelle Cable, Executive Director Maryland Ag Land Preservation Foundation (MALPF), who defended our easement. From her written testimony³ on 4/12/2019:

² Kammer-Juniata 765v line, 2025 RTEP Window 1, project 275.

³ PSC Case 9471, 9/12/2019, PPRP Exhibit MC-1.

“Are the transmission lines proposed by Transource’s project compatible with the restrictions of the foundation’s program?”

No, they are not. By design, the Foundation’s easements limit property uses to agriculturally related activities. Examples of agricultural operations include traditional (and non-traditional) crops, livestock, poultry production, orchards, equestrian facilities, forests, pick-your-own produce, or similar agricultural activities. Because Transource’s proposed transmission lines are not agricultural uses, and are akin to commercial activities, they are prohibited by the Foundation’s statutory and easement restrictions.”

The actual easement language provides strong evidence of Ms. Cable’s position. The easement reads in part:

“It is the purpose of this Easement to enable the land to remain in agricultural use for the production of food and fiber by preserving and protecting in perpetuity its agricultural value, character, use and utility, and to prevent any use or condition of the land that would impair or interfere with its agricultural value, character, use or utility.”

This is certainly the understanding of farmers who have sold their easements. Were the state to sanction eminent domain seizure of preserved lands, all easement organizations could be assured that land preservation would effectively cease.

III. Tax Issues:

Pennsylvania tax policy is not prepared for data centers.

Northern Virginia is the undeniable center of the data center universe. They have had years of experience with their presence. Data centers there are taxed on “personal property.” They pay an *annual* personal property tax (starting at 4.15%) on the value of their data equipment plus 0.98% property tax. That tax is paid to the local municipality. Loudoun County makes more money from this than the combined tax revenue of York and Lancaster Counties.⁴

In comparison, Pennsylvania has 0 personal property tax.

Virginia just implemented a surtax on electricity for large load customers (LLC’s i.e. data centers). Data Centers now will pay an extra 1.1 cents per kilowatt hour of power with proceeds going to the state. The implication here is astounding: PA earns *no* tax on the power it sends to Virginia, yet Virginia earns tax revenue on all the power consumed! Including the power we exported to them.

⁴ 2025 York County Property Tax - \$225M; Lancaster - \$130M; Loudoun County - >\$850M

Here in Pennsylvania, the House has voted to completely eliminate sales taxes on electricity. Great for consumers, but it also means that the only raw material data centers use will be tax free, a giveaway to the industry that amounts to nearly \$54 million each year.⁵

And then there is property tax. Property tax has always been based on the value of the property which is commonly determined by comparable sales values and improvements. A warehouse's tax would be based on the value of the warehouse "shell" and not its contents. If a data center can be thought of as a warehouse full of diamonds (the nvidia chips in their servers), the data center will likely be assessed a property tax commensurate with its shell – not its contents. This puts local municipalities in the difficult position of negotiating with the data center for supplemental benefits to appease the local population which would otherwise be astounded to find that the new \$5B data center is paying the same tax as the Amazon warehouse down the road.

IV. Electricity Rates:

The topic of electricity rates is complicated and its discussion usually results in a wonderful cure for insomnia. But the topic is important to farmers and all ratepayers, and deserves the reader's attention. The majority of a ratepayers bill is composed of wholesale electricity rates, and my analysis will be limited to that. These costs do not include unavoidable costs at the local utility level.

Wholesale electricity rates are composed of three attributes: energy (60%), capacity (16%), and transmission (22%).⁶

Energy:

The cost of energy is the most complicated. It is determined by location (location marginal price - LMP) and by time (in markets of varying horizons). The wholesale cost of energy can be easily tracked on a minute by minute basis by viewing the home page of PJM to view the current LMP map. This is how it looks currently on a very hot day in July:

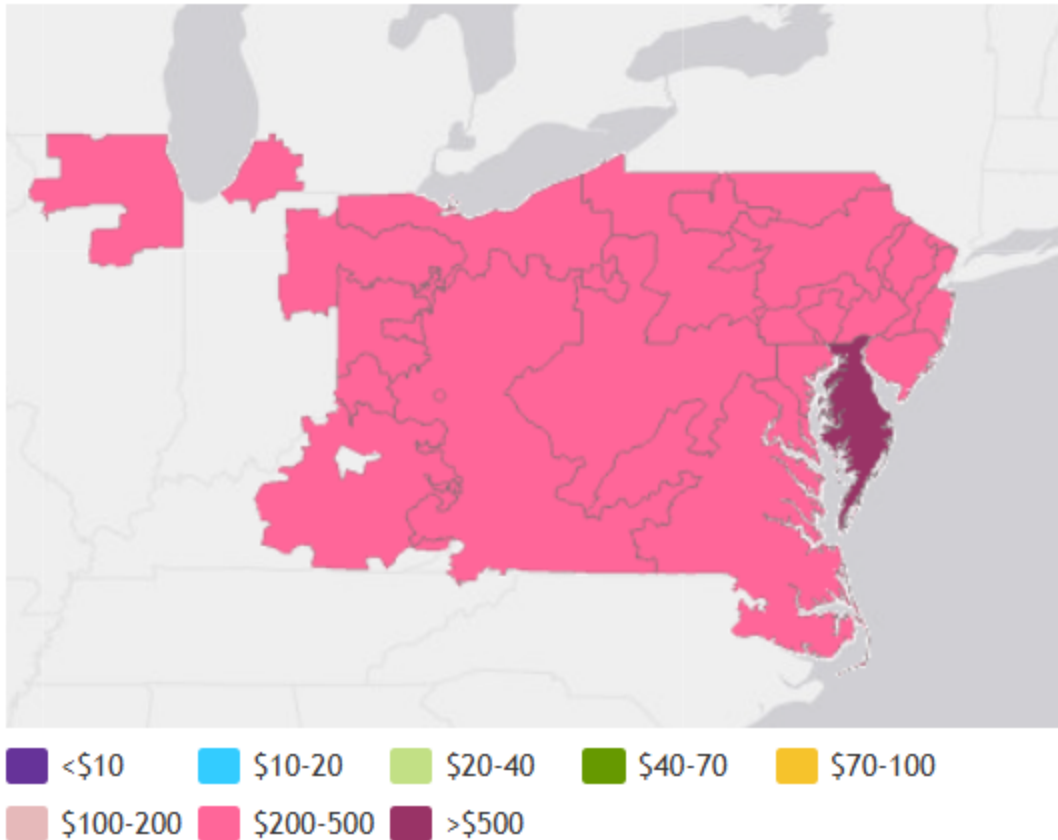
⁵ Data centers consume about 3.2% of PA power. PA tax receipts on power are about \$1.7B.

⁶ 2025 statistics from Utility Dive

Current Conditions

Locational Marginal Pricing

As of 5:41 p.m. EPT



The cost of energy is very high today across the entire PJM RTO because demand is high. But the DelMarVa peninsula is paying even more than everyone else at over \$500/kwh. The utility serving these loads incurs these costs and then works with the regulating agency in the state to set rates that pass those costs on to the ratepayers.

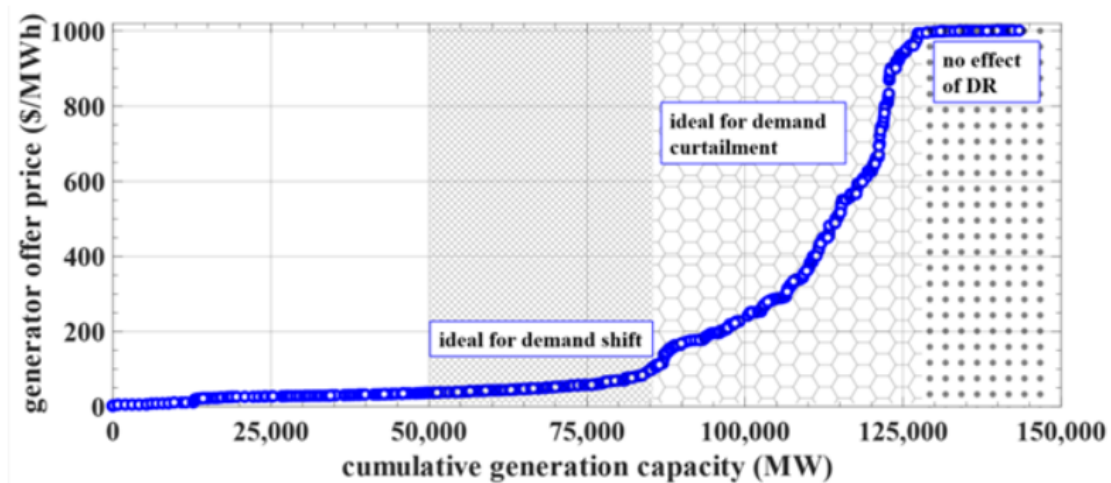
Most important to understanding the cost of energy, is the supply curve. Generators are paid based on their own bids into a competitive market. Periodically, the generator “bids” as to how much power they are willing to sell at what price. Because demand varies through the day, PJM creates a “stack” of generators, first dispatching generators with the lowest price and then dispatching through the stack until sufficient generation is available for the grid. The most expensive generators are dispatched last. But the price bid by the last generator dispatched becomes the price paid to ALL generators. So currently on the map above, we can see that the

last cleared price for most of the grid was between \$200-500 per kwh. All generators are receiving that price.

For perspective, a small hair dryer uses about 1 kilowatt; so the wholesale price of power to run a hair dryer one hour is currently over \$200. Fortunately, these price spikes do not last long and the long term average is much lower.

Here is a typical curve:

PJM Supply Curve



The implications for data center policy are tremendous. Because the last electron needed dictates the clearing price on the curve, we can see that all ratepayers are affected by the extra power used by data centers. As evidenced by our \$200 hair dryer charge, this effect is exacerbated as we move farther out the curve to the right where a small increase in power consumption can result in a large increase in energy costs.

Is there a problem? Yes. In 2025, the cost of Energy **increased 51%** from 2024.⁷

Capacity:

The capacity market run by PJM is intended to ensure reliability. If generators only made money when they ran a few hours a year, there would be no generators left to dispatch at the right end of the curve.

PJM runs a Base Residual Auction (with the catchy acronym of BRA) on a periodic basis to ensure that there are always generators standing by ready to dispatch power when it is needed. The auction looks for market participants willing to offer their capacity and takes all bidders until enough power is offered to cover PJM's reliability needs.

⁷ Utility Dive 3/14/2026 Ethan Howland

When generators *know* that power is scarce, they know they can bid high because their power will absolutely be needed. This has resulted in a stunning increase in capacity prices over the last two years. In 2024, the BRA auction resulted in a 524% increase. The auction was such a mess that state Governors (including Gov. Shapiro) insisted on a ceiling to prevent a catastrophic increase in rates. The three auctions since then have all hit the cap. PJM estimates that the market would have increased another 70% had the cap not been in place. Costs have jumped from \$2.2B in 2022 to \$16.4B.

Transmission:

Transmission is planned by PJM. It is the only tool they have to ensure that new loads can be met (other than load shedding which accounts for very little power). Despite years of suggestions from the Independent Market Monitor (IMM aka Marketing Analytics), they have not established a process to direct generation. As the saying goes, “when the only tool in your toolbelt is a hammer, everything looks like a nail.”

The cost of transmission is about to explode as PJM has directed a staggering amount of new construction. Over 20 years from 2005-2025, PJM installed \$82B worth of system enhancements. The currently approved list of projects totals \$51B in active development.⁸

In other words, we are undergoing a 60% expansion of the transmission asset base to cover data center buildout. Those costs have not hit rates yet because they need to be approved by FERC first. So if you think constituents are complaining now, just wait.

Electric Rate Policy Implications:

The cost of power has increased substantially and will continue to do so in the near future. All three drivers of wholesale power costs are under extreme pressure resulting from the sudden unplanned demand of data centers. Other factors do influence these costs, including fossil fuel generator retirements and some increased electrification from other sources like electric cars. But none of these comes anywhere close to the increased demand of artificial intelligence data centers. For example, Dominion Energy (Virginia) has approved 111 LLC's and has another 220 in the queue, for a total of over 70GW. For perspective, the entire state of PA draws just 17GW.

Stakeholders at all levels agree that the current impact on ratepayers is unfair. President Trump, Governor Shapiro, both branches of the state legislature, the IMM, the OCA, FERC, the PA PUC, and even PJM agree that what is going on is unfair. And yet, nothing has changed because most of these entities lack the jurisdiction or the will to impose the changes on all participants.⁹ Ratepayers are still picking up the bill.

⁸ Prince William Times, 7/15/26 Peter Cary.

⁹ It is important to note the the PUC's recent “Model Tariff” for large loads, does not actually change anything. The OCA believes strongly that the PUC has the authority to make these changes, but the PUC has stopped short of enforcing these rules, and instead suggests them to the utilities. This is a classic example of big talk and no change.

V. Local Governance:

Pennsylvania has a unique structure of local government. York county alone has 72 municipalities: 35 townships, 36 boroughs, and 1 city. Each has its own government responsible for zoning and permitting.

Pennsylvania also has a state Supreme Court precedent that forces these municipalities to accept proposals that might otherwise be unpopular. The “fair share” doctrine is interpreted by townships to mean that they must make room for all legal uses. To do otherwise would be “exclusionary.” They interpret this to mean that every township needs to have rules that allow a data center somewhere in their township. Township supervisors have suffered significant ridicule from their neighbors as they try to write rules to limit the damage as best they can.

In contrast, our surrounding states are hitting the pause button on data centers. In Maryland, Harford, Baltimore, Prince George’s, Montgomery, Frederick, and Queen Anne’s counties all have some sort of pause in place. The entire state of New York just paused development. Yet in York County, we must allow room for 72. The “fair share” doctrine may make sense for homes, businesses, and the occasional cannabis dispensary, but how could it possibly make sense for data centers?

VI. Solutions

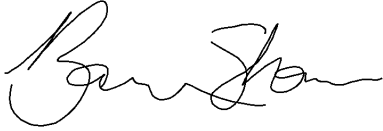
Each of these areas of concern has solutions:

- Preserved Farms should be off-limits to eminent domain. Period.
- New transmission should be confined to existing right-of-way, or public transit (highway) corridors.
- Data Centers should not be exempt from sales tax.
- Data Centers should be subject to personal property tax.
- Data Centers should be required to bring their own co-located generation, subject to environmental regulations.
- Data Centers connected to the grid for any reason should pay ALL costs associated with their presence in the market: in energy, capacity, and transmission.
- The Fair Share doctrine should be abolished via constitutional amendment for the purposes of allowing municipalities the right to say “no” to AI Data Centers.

However, until all of these solutions are in place, the only reasonable alternative is to pause new AI data center development in Pennsylvania AND take all necessary actions against PJM to prevent the accelerating drain of power out of the state. The system is currently failing the public and fixing these problems will take time.

This concludes my written testimony. Thank you for the chance to comment, and please do not hesitate to contact me with any questions.

Respectfully yours,

A handwritten signature in black ink, appearing to read "Barron Shaw". The signature is fluid and cursive, with the first name "Barron" being more prominent than the last name "Shaw".

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