

AI DATA CENTERS: MODERN TIMES' REVERSE ROBIN HOOD THAT LANCASTER DOES NOT NEED

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Two AI data centers are on their way to Lancaster, Pennsylvania. Chirisa Technology Parks and Machine Investment Group intend to develop AI data centers at 216 Greenfield Road and 1375 Harrisburg Pike. While these AI data centers will create a few long-term jobs, those jobs come at a very steep cost for the community. Both AI data centers will require enormous amounts of water, straining the amount of water left for Lancaster's people, farms, and existing businesses. Further, the AI data centers will use so much electricity that Lancaster residents' and businesses' power bills will increase significantly. These costs to the community will far outweigh the small number of permanent jobs. These AI data centers will drain Lancaster. We don't need them, and we certainly shouldn't want them.

What are AI data centers?

AI data center developers gloss over exactly what an AI data center is, implying it is just a data center only larger.¹ This is misleading. AI data centers are larger than traditional data centers, but the difference is not simply size. AI data centers differ from traditional data centers in significant ways. A traditional data center supports general computing, such as hosting websites or storing business data in the "cloud".² This data is "structured data," meaning, "data that has a standardized format for efficient access by software and humans alike. It is typically

¹ See, e.g., Blue Owl and Chirisa Technology Parks Close \$ Billion Joint Venture Partnership Including Machine Investment Group for Lancaster Campus, PR Newswire, Aug 25, 2025; <https://chirisatechnologyparks.com/blue-owl-and-chirisa-technology-parks-close-4-billion-joint-venture-partnership-including-machine-investment-group-for-lancaster-campus/>.

² Tomas, Juan Pedro, "AI data center vs. traditional data center – what's the difference?" *RCR Wireless News*, Mar. 27, 2025. Available at <https://www.rcrwireless.com/20250327/fundamentals/ai-data-center-difference#:~:text=Traditional%20data%20centers:%20Primarily%20store,to%20support%20AI%2Ddriven%20applications.>

tabular with rows and columns that clearly define data attributes.”³ Think excel sheets, customer databases, order histories, etc. Traditional data centers do this with central processing units (CPUs) that perform computing tasks.⁴ In short, these non-AI data centers manage a lot of information, but since the information is readily defined – customer A bought product B on date C – it is cheaper to store and requires less sophisticated equipment.

AI data centers, on the other hand, store unstructured data. While we have been storing unstructured data such as videos and emails since the 1990’s, well before we had AI data centers, AI data centers have ramped up the storage of unstructured data by huge amounts. Put simply, AI data centers use more equipment to do bigger things faster so that AI can harness vast amounts of data (and different types of data) and learn.⁵ AI data centers use equipment that can perform many transactions at one time, such as GPUs (Graphics Processing Units) and TPUs (Tensor Processing Units).⁶

Unstructured data does not have set characteristics like structured data, although it still involves items that we use every day. This includes items like emails and videos.⁷ This is a helpful visual from Medium magazine:⁸

³ “What is Structured Data?” AWS. Available at <https://aws.amazon.com/what-is/structured-data/>.

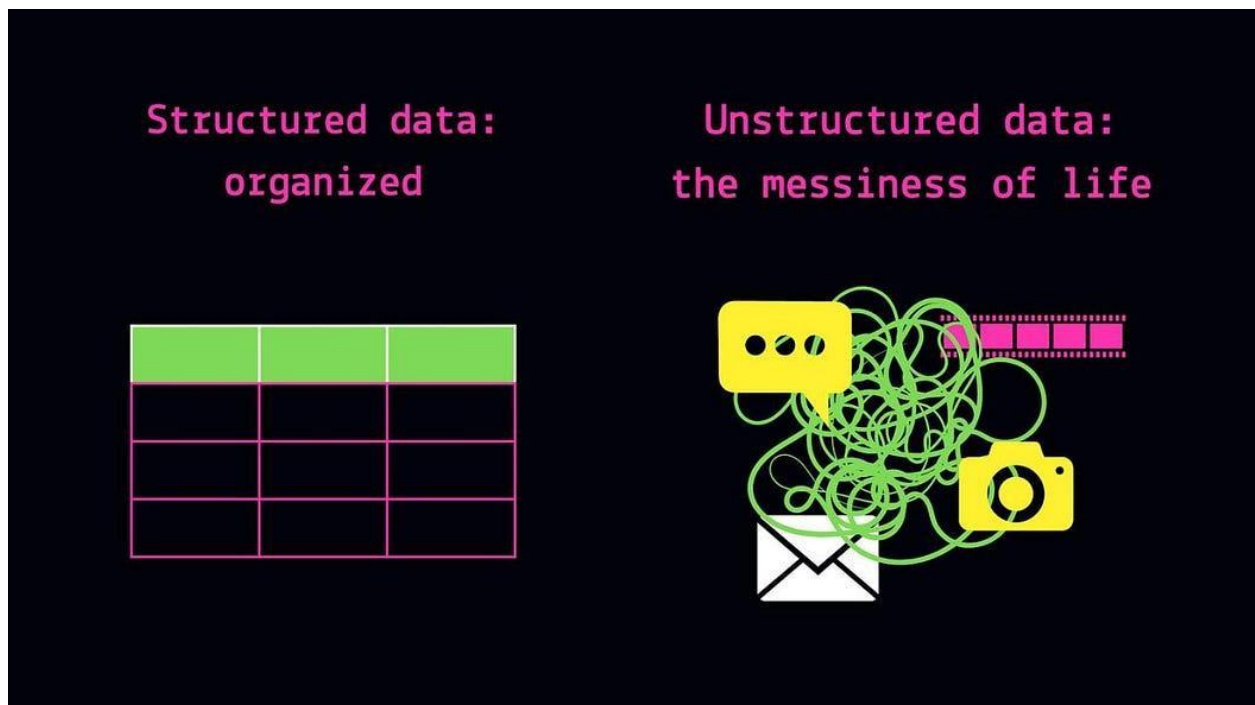
⁴ Tomas, Juan Pedro, “AI data center vs. traditional data center – what’s the difference?” *RCR Wireless News*, Mar. 27, 2025. Available at <https://www.rcrwireless.com/20250327/fundamentals/ai-data-center-difference#:~:text=Traditional%20data%20centers:%20Primarily%20store,to%20support%20AI%2Ddriven%20applications>.

⁵ *Id.*

⁶ *Id.*

⁷ Tomas, Juan Pedro, “AI data center vs. traditional data center – what’s the difference?” *RCR Wireless News*, Mar. 27, 2025. Available at <https://www.rcrwireless.com/20250327/fundamentals/ai-data-center-difference#:~:text=Traditional%20data%20centers:%20Primarily%20store,to%20support%20AI%2Ddriven%20applications>.

⁸ Gnibus, Alex. “Why Unstructured Data is Having a Moment, Thanks to AI,” *Medium*, Feb. 26, 2024. Available at



Accordingly, AI data centers are not just large data centers. AI data center developers' effort to gloss over this distinction is intentional – it misleads community members to assume that, since traditional data centers have been around for a while, another data center that is just a bit larger will not be a problem. This hides that not only is the AI data center bigger, but the equipment used – and more importantly resources consumed – is vastly different. This misleading approach itself serves as a red flag.

What impacts have other communities experienced with AI data centers?

AI data centers are a new phenomenon. For data centers, the negative reviews substantially outnumber the positive, and data centers require far less electricity than AI data centers. Northern Virginia is a hotbed of data center development, so much so that it has

<https://medium.com/@alexgnibus/why-unstructured-data-is-having-a-moment-thanks-to-ai-ad546e5a7158>.

earned the nickname “Data Center Alley”; electricity bills in that area have increased 80%.⁹

Bloomberg News reported in September 2025 that it analyzed electricity prices for areas across the country where data centers are located.¹⁰ Its investigation found that wholesale electricity prices in those communities are as much as 267% higher than they were 5 years ago.¹¹

Similarly, in a community near Columbus, Ohio, another data center hotbed, electricity prices have doubled over the last five years.¹² At base it makes sense – it takes a long time to build new electricity supplies, and if the demand increases substantially, the price rises.

Lancaster Agreement with AI data centers

Lancaster City reached an agreement with the owners of the AI data centers on November 20, 2025.¹³ The Agreement has some positives, such as restricting water use to 40,000 gallons per day (20,000 for the Greenfield site and 20,000 for the Harrisburg Pike site).¹⁴ The Agreement also makes moderate gestures towards renewable energy. Specifically, the goal is for the Lancaster AI data centers to be powered by renewable energy. However, the agreement has multiple backup provisions such that only 60% of the energy must be from

⁹ Saul, Josh, “AI Data Centers Are Sending Power Bills Soaring,” *Bloomberg News*, Sept. 29,, 2025. Available at: <https://www.bloomberg.com/graphics/2025-ai-data-centers-electricity-prices/>.

¹⁰ *Id.*

¹¹ *Id.*

¹² Romer, Keith. “What AI Data Centers Are Doing to Your Electricity Bill,” *Planet Money*, NPR, Dec. 19, 2025: <https://www.npr.org/transcripts/nx-s1-5649814>.

¹³ Reber, Chris, “Lancaster City Council Votes to Approve Data Center Benefits Agreement,” *LNP*, Nov. 21, 2025. Available at: https://lancasteronline.com/news/local/lancaster-city-council-votes-to-approve-data-center-benefits-agreement/article_b05cb1fd-a585-4c4f-8945-c96ada3172ad.html. The Agreement is available at <https://www.cityoflancasterpa.gov/wp-content/uploads/2025/11/Lancaster-CBA-Draft.pdf>.

¹⁴ Agreement § 3.4.

renewables.¹⁵ Moreover, the agreement provides that the owners can meet this obligation by purchasing energy credits. In other words, the power does not actually have to come from something like a wind or solar farm. Rather, the AI data center owners purchase alternative energy credits.¹⁶ This is not altogether bad – it increases the amount paid to renewable energy developers and, therefore, promotes renewable energy. But it does not guarantee that the electricity powering the Lancaster AI data centers actually comes from a renewable energy source. All of the electricity flowing to the Lancaster AI data centers could be generated at a coal-fired power plant, they’re just buying credits for solar power, for example, that sent electricity somewhere else.

The Agreement also requires that the Lancaster AI data center owners pay \$20 million to Lancaster City. Half of the funds are earmarked to promote the City’s environmental goals. The other half goes to the Lancaster County Community Development Foundation.¹⁷

Some parts of the Agreement sound nice but offer little. For example, with respect to air pollution the Agreement requires the Lancaster AI data centers to “comply with all federal and state laws.”¹⁸ That is not a negotiating win for Lancaster – the Lancaster AI data centers must abide by federal and state law regardless of what the Agreement says.

There are other parts of the Agreement that are deeply concerning. Lancaster City is currently developing new rules for data centers. This Agreement provides that the Lancaster AI

¹⁵ Agreement § 3.3.

¹⁶ See Agreement Article 2, defining “Derived from Clean Energy Sources as including, “the procurement of renewable energy certificates and/or other similar renewable energy credit instruments (regardless of location in the United States) including, but not limited to, Pennsylvania alternative energy credits.”

¹⁷ Agreement Article 2, definitions of “Letter of Credit” and “Sustainable Development and Clean Energy Fund.”

¹⁸ Agreement § 3.2.

data centers need not abide by whatever those new rules turn out to be – they are “grandfathered-in.”¹⁹ There is also some language that appears to be an attempt to limit liability for nuisances or other third-party claims against the Lancaster AI data centers.²⁰ The Agreement was signed on a rushed basis with little time for public consideration. This deepens suspicion about who ultimately benefits from the Agreement.

The environmental impacts of data center are well documented.

There are three likely environmental impacts from these facilities: (1) substantial electric use, which may increase local electricity bills; (2) air pollution from facilities; and (3) water use (40,000 gallons per day). Unsurprisingly, Chirisa and Machine Investment Group contend that these impacts will be minimal. Chirisa has indicated that water consumption will be similar to a small office building and will use less water than the property’s previous use as a printing facility. PPL electric states that Chirisa will pay for upgrades to the transmission lines and will pay “a significantly higher portion” of any rate increase - whatever that means.²¹

It is important to examine each of these environmental impacts in turn. The facts indicate these impacts will be significant in Lancaster and cannot be swept under the rug.

Electricity use

Despite Chirisa’s promise of little impact on electricity prices, it is obvious that the AI data centers will cause electricity rates to substantially increase. AI data centers consume significantly more power than traditional data centers. For example, a ChatGPT query needs nearly 10 times as much electricity to process as a Google search.²² “A single ChatGPT query

¹⁹ Agreement § 12.2.

²⁰ Agreement § 9.5.2.

²¹ Data Center Information, City of Lancaster. Available at: <https://www.cityoflanasterpa.gov/data-center/>.

²² “AI is poised to drive 160% increase in data center power demand,” Goldman Sachs, May 14, 2024. Available at

requires 2.9 watt-hours of electricity, compared with 0.3 watt-hours for a Google search”²³

The facility at 216 Greenfield Drive will start as a 100 megawatt AI data center but, “will have the potential to be expanded to up to 300 megawatts in the future” – i.e., it will be at least a 300 megawatt facility.²⁴ 300 megawatts is enough to power 247,934 average American homes for a year.²⁵ Per the 2023 census there were 21,243 households in Lancaster City and 210,536 households in Lancaster County.²⁶ In other words, the Greenfield AI data center alone will utilize as much power as all of the households in Lancaster County combined and **ten times** the amount of power as the households in Lancaster City. This is not an anomaly; it is a fact with AI data centers across the country. For example, a new AI data center in Wyoming will use more electricity than all homes in the state combined.²⁷

Air pollution

<https://www.goldmansachs.com/insights/articles/AI-poised-to-drive-160-increase-in-power-demand>.

²³ *Id.*

²⁴ Reber, Christopher, “Officials say Lancaster City data center won’t affect water, electrical grid,” *LNP Lancaster Online*, Jul. 23, 2025. Available at https://lancasteronline.com/news/local/officials-say-lancaster-city-data-center-wont-affect-water-electrical-grid/article_4e04cb08-4ebc-4fcd-a26d-edb8d8d62498.html.

²⁵ See Toro, Sergio, “20 MW data center consumes enough electricity to power approximately 16,500 average U.S. homes,” *aterio*, Jan. 20, 2025. Available at <https://www.aterio.io/blog/20-mw-data-center-consumes-enough-electricity-to-power-approximately-16-500-average-u-s-homes>. Here’s the math: 1 MW = 1,000kW; 300 MW = 300,000 kW; 300,000 / 1.21 kW (average American household per year) = 247,933.884.

²⁶ *Census Reporter*. Available at: <https://censusreporter.org/profiles/06000US4207141216-lancaster-city-lancaster-county-pa/#:~:text=Units%20&%20Occupancy,Single%20unit63%25>.

²⁷ Gruver, Mead and Matt O’Brien, “Cheyenne to host massive AI data center using more electricity than all Wyoming homes combined,” *Associated Press*, Jul. 28, 2025. Available at <https://apnews.com/article/ai-artificial-intelligence-data-center-electricity-wyoming-cheyenne-44da7974e2d942acd8bf003ebe2e855a>.

AI data centers create significant air pollution because they use backup diesel generators. Diesel spits soot, volatile organic compounds, nitrous oxides, and carbon dioxide into the air.²⁸ The Lancaster AI data centers will have 176 diesel generators. While these generators are labeled “backup” and presumably to be used only when needed, data centers in other areas have frequently run these backup generators for “testing,” resulting in significant air pollution locally.²⁹ Why would we think Chirisa will not do the same here? Of course it will.

Water use

Data centers typically require large amounts of water to keep their equipment cool.³⁰ The Lancaster AI data centers promise that they will use no more than 40,000 gallons per day. The Lancaster AI data centers contend that they can operate at this sharp reduction in water use by employing “closed loop” water systems.³¹ Closed loop systems are more efficient than traditional cooling systems for data centers.³² In the past data centers used evaporative cooling, whereby the water was lost. Closed-loop cooling systems recirculate the water used for cooling in a loop.³³ Notably, this isn’t “zero water” – the system still needs an initial fill-up. Moreover,

²⁸ “Minimizing Emissions from On-Site Diesel Generators,” *Rypos*. Available at: <https://www.rypos.com/resources/emissions-blog/clearing-the-air/>.

²⁹ Gorey, John, “Data Drain: The Land and Water Impacts of the AI Boom,” *Land Lines Magazine*, Lincoln Institute of Land Policy, Oct. 17, 2025. Available at <https://www.lincolninst.edu/publications/land-lines-magazine/articles/land-water-impacts-data-centers/>.

³⁰ *Id.*

³¹ Community Benefits Agreement Summary. Available at <https://www.cityoflancasterpa.gov/wp-content/uploads/2025/11/Community-Benefits-Agreement-Summary-1-1.pdf>.

³² “Microsoft’s Zero-Water Cooling: Lessons for Data Centers,” *Serverion*, May 6, 2025. Available at: <https://www.serverion.com/uncategorized/microsofts-zero-water-cooling-lessons-for-data-centers/#:~:text=comfort%20cooling%20systems.%22-,Water%20Usage,are%20exploring%20zero%2Dwater%20alternatives>.

³³ *Id.*

there is an even more efficient cooling technology called “zero water” for AI data center that Microsoft is implementing, but that system might require even more power for the AI data center.³⁴

The Lancaster AI data centers’ long-term harm will vastly outweigh any short-term economic benefits.

Lancaster has much to lose from the introduction of the two AI data centers. They promise employment. However, the Greenfield site will only create 600 jobs during construction.³⁵ And afterward, 400-525 of those jobs will leave, resulting in only 75 to 150 permanent jobs.³⁶ This is a very small gain for such significant environmental costs, not to mention the out-of-pocket costs to residents in the form of higher electricity prices.

This outcome would be fully in line with the experiences of other communities who have allowed the development of AI data centers. One is hard pressed to find any accounts of communities that are pleased that AI data centers were built in their communities; meanwhile the internet is overflowing with horror stories from communities where AI data centers were built. Lancaster’s leaders are being more than naïve – rather grossly negligent or reckless – thinking that despite the experiences of every other community that has made this choice, Lancaster’s experience will be different.

Lancaster residents deserve more than the meager benefits from the Agreement.

The Agreement does little to assuage these concerns. It is great that the Lancaster AI data center owners are paying \$20 million to Lancaster City, but the collective harms exceed

³⁴ *Id.*

³⁵ “Building Pennsylvania into the Mid-Atlantic AI Hub,” CoreWeave, Jul. 15, 2025. Available at <https://www.coreweave.com/blog/building-pennsylvania-into-the-mid-atlantic-ai-hub#:~:text=But%20this%20investment%20is%20not,in%20the%20most%20important%20markets>.

³⁶ “Building Pennsylvania into the Mid-Atlantic AI Hub,” CoreWeave, Jul. 15, 2025. Available at <https://www.coreweave.com/blog/building-pennsylvania-into-the-mid-atlantic-ai-hub#:~:text=But%20this%20investment%20is%20not,in%20the%20most%20important%20markets>.

\$20 million. Further, the Lancaster AI data centers will substantially increase power consumption. Since the Lancaster AI data centers are not necessarily powered with renewable energy, that electricity could come from any dirty source. Further, the increase in power needs will increase costs for everyone in Lancaster and drive-up power generation from all sources, both renewable and fossil fuels.

The Agreement's strongest protection is with water use – 40,000 gallons per day. That is still a lot of water. The average American family of 4 uses 400 gallons of water per day.³⁷

More generally, it is difficult to understand what society overall gains from this heavy investment in AI. Aside from the environmental issues, it is a dangerous technology that is not being developed responsibly. The promise is that it might help solve problems and it will allow everyone to live carefree lifestyles with little to no work. But that wishful thinking ignores the dark possibilities of this technology. Not everyone wants to use this technology to do good things. Moreover, we are accepting definite negative consequences described above for the chance that maybe it will do good things. Further, in terms of the promise that we will all work less, that result would defy all of the lessons of history. Technological advancements that make people more productive do not lead to less work. We do not work less now because of the Industrial Revolution. Rather, history teaches that we just make more stuff – each person produces more, but we all work as much or more than before. If you work less because of AI it is because AI took your job and you are now unemployed.

This leads to the most nefarious aspect of the AI revolution. We are collectively taking these environmental harms and risks to humanity's future so that a handful of people get incredibly wealthy. Worse, through the higher electricity prices and environmental damage, these same people are asking us to bear the cost of investing in our own demise.

³⁷ *Indoor Water Use in the United States*, Environmental Protection Agency Office of Water. Available at: <https://19january2017snapshot.epa.gov/www3/watersense/pubs/indoor.html>.

Unfortunately, the Agreement makes it a near-certainty that the Lancaster AI data centers will proceed as planned. There are some things that Lancaster City and its residents can do, however. First, Lancaster City and its residents should zealously monitor the Lancaster AI data centers for strict compliance with the Agreement – the Agreement allows the City to seek injunctive relief for a breach, and it should not hesitate to do so. Second, Lancaster should use the \$20 million for environmental sustainability efforts. Third, Lancaster should enact local ordinances that would prevent more data centers from being developed here. Fourth, Lancaster should hold its elected leaders responsible for entering into this Agreement. Fifth, Lancaster County residents should consider bringing tort claims against the Lancaster AI data centers; it is unclear if the Agreement will be able to short-circuit those claims from Lancaster City residents, and even if it does, Lancaster County residents who live outside of the City should not be bound by that portion of the Agreement. Sixth, the Pennsylvania Department of Environmental Protection is still considering approval for an air quality permit with respect to the diesel generators;³⁸ the public comment period closed on December 15, 2025, but citizens can and should challenge any approval.

Overall this is disappointing for Lancaster for all of the reasons above. The most likely scenario is that a community considering an AI data center will include Lancaster in the long list of other communities that were substantially damaged by allowing one to be built. There are some mechanisms for Lancaster to make the best of the situation it is in, and we must exercise those to the utmost.

³⁸ Data Center Information, City of Lancaster, <https://www.cityoflancasterpa.gov/data-center/>.