

Data centers need massive power. They’re eyeing Kentucky’s idle industrial sites to get it.

One environmental attorney warns of ratepayer costs down the road

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Paducah Mayor George Bray calls the former Paducah Gaseous Diffusion Plant in McCracken County the ideal site for a hyperscale data center.

When the plant was enriching uranium, initially for the nation’s stockpile of nuclear weapons and then for nuclear power plant fuel, it had the ability to use over 3 gigawatts of power and used 26 million gallons of water a day.

“When we enriched uranium there, all the infrastructure around that power is still available,” Bray said. “Plus, we’ve got you know tremendous water capacity out there.”

The plant closed in 2013 under the control of the federal government, and local elected leaders debated for years what could become of the infrastructure there, an active Superfund site needing remediation for the legacy of hazardous and radioactive waste released into the environment.

The U.S. Department of Energy provided an answer late last month, planning to transform a portion of the site into a hyperscale data center and nearby natural gas-fired power plants to “the AI race.” The 1.8 gigawatt data center, one of the largest so far planned in Kentucky, is a part of a larger strategy by the Trump administration to turn former Cold War-era federal sites into hubs for data centers and energy production.

That electrical infrastructure — high-voltage transmission lines, substations, transformers — that allows a hyperscale data center to access massive amounts of electricity is something that’s in high demand and in short supply across the country as technology companies spend billions of dollars on data center construction.

And these data center developers are increasingly looking to Kentucky’s idled industrial sites — former coal mines, a former aluminum smelter, a former steel mill, industrial parks — to find it.

While local economic development directors see an opportunity for new life at languishing industrial sites, one environmental attorney warns there could be a cost for ratepayers down the line.

A smelter into a hyperscaler

Along the Ohio River, the Century Aluminum smelter in Hancock County had shuttered its operations after over 50 years of operation in 2022, citing unsustainably high electricity prices.

It laid off more than 600 employees in the county of about 9,000 people. The infrastructure where 482 megawatts of electricity flowed through transmission lines to craft military-grade aluminum products remained on site.

Mike Baker, the director of the Hancock County Industrial Foundation, a local economic development group, said the loss of those smelter jobs and tax revenue meant the loss of personal livelihoods and money for local schools and government. He had been in talks with Century Aluminum, which owned the site, to try to find a new use for it.

“Manufacturing is what we were hoping for,” Baker said. “Had nothing to do with data centers at the time in 2022. I don’t think anybody even knew what a data center was.”

A hyperscale data center developer arrived years later. Investor-owned TeraWulf bought the site from Century Aluminum earlier this year, planning to use that power capacity to turn it into a 482-megawatt hyperscale data center. The company is leasing the data center to artificial intelligence

company Anthropic.

“It was a former industrial site that had the power,” Baker said. “That’s the number one draw for a data center is, ‘Is their power available?’ And that makes that location much more attractive.”

There are a number of other idled industrial sites across the state that have been eyed by hyperscale data centers looking for places to hook up.

The hyperscale data center developer based in Spain is looking at the former AK Steel mill in Boyd and Greenup counties to build a 2-gigawatt data center campus.

Before the Bell County Fiscal Court passed a temporary ban on data center construction, a developer was looking to use more than 300 megawatts of leftover electrical transmission infrastructure from inactive coal mines to power a data center.

TeraWulf is also planning on taking over an Eastern Kentucky industrial park—the same park where the state tried and failed to locate an aluminum mill—for another hyperscale data center.

The city of Pikeville is also in negotiations to put a smaller data center in a local industrial park that has existing electrical infrastructure.

Baker said the jobs created by TeraWulf at the former aluminum smelter site — about 200 permanent jobs — won’t make up for the lost smelter employment.

But he believes the site, and industrial sites similar to it, are a much better fit for a large data center. He said that’s compared to a situation where a data center uses hundreds of acres of prime farmland or locates next to a subdivision. He called that a situation “that could generate the kind of emotion and concern that communities have” with data centers.

“The tax revenue can be significant,” Baker

said. “That can be a worthy use of that property.”

In Mason County, the local planning and zoning committee approved the rezoning of more than 2,000 acres of rural, agricultural land to industrial use for a planned hyperscale data center by an undisclosed technology company. Local pushback against the project over land use and environmental impacts has been ongoing since last year.

Chasing power — but at what cost?

Yet late last month, residents in Hancock County voiced strong concerns about the project to the state utility regulator Kentucky Public Service Commission in a local public hearing. They expressed concerns over the data center’s water usage, what it could mean for their electricity bills and the impacts of backup electricity generators installed at the industrial site.

Gary Elder, a resident of the Hancock County city of Lewisport, told the PSC during that hearing he has concerns over utility costs, potential pollution and the “loud racket” with having seen reporting about data centers in other states.

“It’s already been there at these states,” Elder said. “If it happened there, why do we not think it’s going to happen here? So, think about that — what you’re going to do to us.”

The PSC is considering whether to approve a special contract for power between TeraWulf and electric utility Big Rivers Electric Corporation.

Byron Gary, an attorney for the environmental legal group Kentucky Resources Council, said putting data centers on former industrial sites “certainly makes sense” from a developer’s perspective given much of the transmission infrastructure is already there. He said develop-

ers might also avoid local pushback on projects if it’s already been an industrial site in the past.

But he worries about potential longer-term costs for Kentucky ratepayers, assuming all the proposed massive data centers come to fruition.

In the case of the Hancock County data center, he said, the TeraWulf data center also has a tentative agreement with Big Rivers Electric Corporation to get its power from the wholesale electricity market through the regional energy grid operator MISO, given that the electric utility doesn’t have close to enough power on its own to power multiple data center projects.

He said as more demand for electricity comes onto regional energy grids that are a part of Kentucky — such as MISO and PJM — more transmission upgrades to the overall grid are needed.

Even though a company like TeraWulf may pay for its own electrical infrastructure upgrades at an industrial site, he said the larger upgrades to the overall grid are paid for by all ratepayers. He imagines that would also include significant upgrades to serve the massive data center and natural gas-fired power plants planned at the former Paducah Gaseous Diffusion Plant.

“If those transmission upgrades are not directly allocated to an individual data center or a set of individual data centers, they end up being socialized across all ratepayers,” Gary said.

Utility Dive reported last month that data centers were responsible for \$6.3 billion in electricity capacity charges during energy auctions held by the PJM grid operator, meaning ratepayers are paying for higher energy costs and transmission costs because of data centers.

The costs of natural

gas-fired turbines — which Kentucky utilities are seeking — has also spiked because of demand from data centers who want to use them for on-demand power.

“Those costs, whether they are to serve data centers or not, still impact all of us, Gary said. “The cost of new generation, transmission, and all of that are things that would have been needed in some cases anyway. We’re just going to pay a lot more for them.”

‘Speculative’ versus ‘real’

One economic development leader in Eastern Kentucky told the Lantern that data center inquiries are unabated.

Colby Kirk, president and CEO of One East Kentucky, who works with several coalfield counties, said it’s hard to discern “what’s real and what’s speculative” with data center requests.

He gets inquiries asking for sites with millions of gallons of water a day or 1000 acres of land, something that “just doesn’t exist” in his part of Kentucky. Even though he would prefer to land a manufacturing outfit, he does see some potential for tax revenue from data centers.

He pointed to an effort to build a 100-megawatt natural gas-fired power plant at a Letcher County industrial park for a potential data center, a park that’s “been sitting there for 20, 25 years.”

But he also doesn’t know what the future of data centers in Kentucky will hold. He’s seen waves of interest from solar developers looking at Eastern Kentucky. Then cryptocurrency miners came looking at the area. Now, it’s data centers.

He said he’s not an economist, but he’s read news of a “potential AI bubble.”

“Who knows what this landscape will look like two years from now?” he said.

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Kentucky research: CBD, THC combo can improve late-stage dementia patients’ quality of life

Dementia is not listed with conditions allowed in Kentucky’s medical marijuana program

Sarah Ladd
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New research — which Kentucky participated in as a trial site — shows a combination of cannabidiol (CBD) and tetrahydrocannabinol (THC) can help late-stage dementia patients feel less agitation.

Dr. Greg Jicha, the director of clinical trials at the University of Kentucky’s Sanders-Brown Center on Aging, said this combination, given to patients all over the state who participated in trials, lowered agitation scores by eight points, a “striking” reduction.

“We’ve seen a lot of Alzheimer’s research

really move towards the early stages in terms of prevention, and that’s really left a huge hole in the field where we have limited options to provide quality of life, dignity and respect for those that are in the later stages of disease,” Jicha said during a Tuesday morning virtual press conference. “We have very few medications that we can use for patients that may be agitated and/or have other neuropsychiatric symptoms, and these can be quite disruptive, especially for our families in our area who choose to care for their loved one at home.”

Kentucky has a medi-

cal cannabis program, approved by the legislature in 2023, which allows patients experiencing a range of chronic distress to get medical marijuana prescriptions.

“Notably, however, dementia is not listed,” Jicha said.

Dementia is a “major leading cause of death,” he said, and “the data that we have out there do suggest that the majority of folks that are in hospice are suffering from some sort of dementia, whether they’re in hospice for the dementia itself, or for a related condition, or just other conditions that may be unrelated, such as cancer.”

“I think that it was an oversight to not include dementia specifically in our state statute,” Jicha said.

Alzheimer’s disease, which falls under the umbrella of dementia, is characterized by memory loss and is incurable. Treatments exist, though, including Lecanemab (brand name Leqembi), which underwent clinical trials at the University of Kentucky. This is an antibody that targets — and in some cases, removes — amyloid plaques from the brain, and has shown some success in slowing cognitive decline.

According to the Alzheimer’s Association,

patients experiencing agitation who have also lost “their ability to communicate effectively” may express their feelings by throwing things, moaning or groaning, repeating phrases, pacing and more.

Treating this agitation can better their quality of life — and that of their caregivers and loved ones, Jicha said.

“In essence, they were awake, alert, more comfortable and less agitated, and this led to significant improvement in the caregiving quality of life that was also measured in the study as an ancillary outcome measure,” during the study, Jicha said.

Because of the nature of the patient population being studied,

UK researchers “went mobile,” Jicha said, and drove to participants’ homes. All participants in the study were eligible for hospice; most were cared for inside their homes and many of them were bed bound. The cannabis and THC treatment was given to patients in oil form in the mouth.

“I think this is an important study for folks to understand and to hear about, and to know that we’ve not forsaken their loved ones in the later stages of disease,” Jicha said, “nor have we forsaken the family members and caregivers that take on this tremendous task of love and commitment.”

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