When Your New Neighbor Is... a Data Center

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Ariana Brocious: I'm Ariana Brocious.

Kousha Navidar: I'm Kousha Navidar.

Ariana Brocious: And this is Climate One.

[music change]

Kousha Navidar: Ariana, it feels like I can't go a week right now without seeing a new headline about data centers. I mean, there are billions of dollars flowing into the industry, massive new construction, resulting in concerns about depleted water sources, higher electricity costs, and pollution..

Ariana Brocious: And.. a **lot** of community frustration.

Kousha Navidar: True.

Ariana Brocious: There are a couple of data centers proposed in my Arizona county that have been very contentious. And the same story is playing out in so many other places.

Kousha Navidar: And because of the speed of development, lawmakers are scrambling to write rules for facilities in their communities, facilities that never existed at this scale.

Ariana Brocious: That's right. The data centers being built now are WAY larger and more energy and water hungry than their predecessors. And this gets to a term we'll be hearing a lot in today's show: hyperscalers.

Kousha Navidar: A hyperscaler is a large cloud-computing service provider that runs through a distributed network of servers. We're talking Amazon, Microsoft, Google. These are the companies driving the data center boom.

Ariana Brocious: Later, we'll hear from a journalist who spent time in a small Pennsylvania town that's been upended by data center development.

Kousha Navidar: And we'll also hear from an energy executive on what it would actually take for these facilities to be good neighbors to the communities and electric grids around them.

Ariana Brocious: But first, we wanted to go back to the place that's become something like ground zero for this whole debate: Southwest Memphis.

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Kousha Navidar: Two years ago, Elon Musk's company xAI set up a data center there almost overnight. And it caught a lot of residents off guard.

Playback:

Community member: Elon Musk we do not want here in Memphis!

Community member 2: We've shown up here today because we're tired of going in and out of hospitals, going in and out of funeral homes. We've been paying taxes, and we've been dying, and what we're saying is that stops now

Ariana Brocious: The plant, called Colossus, couldn't get connected to the electric grid as fast as the company wanted. So instead, it's been running on dozens of methane gas turbines to keep its servers running.

Kousha Navidar: Which means a lot of additional air pollution, in a part of the city that's predominantly Black and already carries a heavy industrial burden.

Ariana Brocious: Earlier this year, the NAACP and the Southern Environmental Law Center sued xAI over a lack of environmental permits for those turbines.

Kousha Navidar: And just recently, Mississippi residents filed a class action lawsuit against xAI over another power plant in Southaven, Mississippi that powers its data centers. They are suing the company for, "Near constant noise, vibrations, and other nuisance level harms from the turbines."

Ariana Brocious: Last year we talked with KeShaun Pearson, executive director of Memphis Community Against Pollution. He told us about the impacts on the community, and how they're pushing back.

Kousha Navidar: I checked back in with him recently to hear what's changed since then.

Kousha Navidar: KeShaun, welcome back to Climate One.

KeShaun Pearson: Thank you so much for having me back.

Kousha Navidar: Uh, let's bring people up to date. So last time we talked, XAI had one major data center in Memphis. It was called Colossus. Now they have two, right?

KeShaun Pearson: Now we actually have three. And so XAI has now created Colossus I, Colossus

II, and a third facility that houses their compute

Kousha Navidar: I see. And so are even more planned in the future?

KeShaun Pearson: Truthfully, I believe they are. xAI does own 522 acres of land across the road from the Colossus-1 facility, and I could truly see it being another, uh, site of even more xAI and now SpaceX compute and another data center

Kousha Navidar: Let's talk about the, the turbines. So in February, investigative news outlet Floodlight used thermal drones to show that XAI was continuing to burn gas turbines at its South Haven plant, and that's in spite of an EPA ruling that they needed a state permit before doing so. Now, state regulators have said so long as the turbines are mobile, they don't fall under regulation. What does that mean, and are they still maintaining that position?

KeShaun Pearson: So what is being asserted is the idea that if you put large methane gas turbines on wheels, they all of a sudden become mobile methane gas turbines. And what the United States Environmental Protection Agency asserted in January of this year, in 2026, is what we've been saying all along. These methane gas require to be in alignment with the standards of the Clean Air Act. The Clean Air Act demands community engagement. It also demands a more in-depth environmental impact study. None of that is being done, or none, and none of that has been done, especially as XAI, now SpaceX, continues to grow in our region and continues to bring even more pollution from its methane gas turbines. None of these laws are being enforced or being adhered to. There is no enforcer. And so our Shelby County Health Department hasn't done the enforcement work. The Mississippi Department of Environmental Quality hasn't done the work to enforce. Rather, they have rewarded the bad behavior. They have rewarded the unlawfulness with permits to pollute our air. It is truly a miscarriage of justice, and what we're seeing is the manipulating of even our governing institutions for billionaires' benefits.

Kousha Navidar: Recently, I guess to that point, state regulators decided to allow an additional, I think it's 41 methane gas turbines in Southaven. Is that right?

KeShaun Pearson: That's right. The Mississippi Department of Environmental Quality provided a permit for 41 methane gas turbines. Now, these turbines are very different from the turbines that were used at the Colossus I facility. They are much bigger and emit much, much more pollution.

Kousha Navidar: I'm imagining it was, it was, it was poorly received, but can you tell me, like, what that process has been like for you?

KeShaun Pearson: It looks like: continuing to be blindsided. When Colossus I was announced June 5th, 2024, we were blindsided. When the Mississippi Department of Environmental Quality awarded XAI this permit for methane gas turbines, that is inadequate, right? What is happening is still wrong, it's still immoral, but it is also against the law. So much so that the Department of Justice has sought to dismiss our case that would stop the use of these unlawful methane gas turbines, citing that X AI, now SpaceX, is truly, uh, a necessity for our military, for the United States of America, and so Elon Musk and the unlawful and illegal use of these methane gas turbines is not only being shielded by the public institutions here locally with MDEQ and the Shelby County Health Department, now being covered by the actual federal government. This fight represents truthfully all that is wrong with an oligarchy going unchecked and being able to manipulate our economic systems and diminish what our democracy, small D, looks like.

Kousha Navidar: I wanna know how these projects are affecting you, how they're affecting your community

KeShaun Pearson: In Southwest Memphis, we have the highest concentration of toxic release chemical facilities, right? We have been overburdened for decades because of redlining. Redlining allowed the zoning around where the concentration of Black families were able to buy property and to live their lives to be encircled by polluters and industry. So today, we have a steel mill. We have an oil refinery. We have the Tennessee Valley Authority and their methane gas turbines. And now we also have the methane gas turbines from XAI and the XAI complex on the other side of South Memphis. What is happening is we are continuously being strangled by air pollution, and that continues to show up in the 4.1 times the national average cancer rate that we have. It shows up in the fact that our children experience more respiratory illnesses that send them to the ER more than anyone else in the state of Tennessee. The University of Tennessee produced, uh, a report that showed 79% increase in our peak nitrogen dioxide levels since XAI arrived. They have now become the largest polluter in our region in less than two years and have done it unlawfully. We are continuing to be targeted. We are continuing to hold the body burden of these experiments, and now our community continues to say, "No more." We cannot continue to be the sacrificial zone for industry. We don't deserve that. We deserve to be treated humanly, and we deserve what is our human right to clean air, clean water, and a healthy environment.

Kousha Navidar: Yeah, I take your point. I absolutely hear it. It's correct that this is the same story with different characters for what many communities have been facing in the long arc of American history. I can hear, KeShaun, the anger, I think justifiably so, that is from not just you, but a community that is facing the body burden, to borrow your phrase, that is very affecting to hear.

And I'm wondering from a policy perspective how you shift the narrative and, and gain stakeholder support. Memphis Community Against Pollution teamed up with the Center for Engagement, Environmental Justice and Health Empowering Communities to install air monitors throughout Southwest Memphis and Southaven to test particulate matter. Can you tell me a little bit about what that research has shown?

KeShaun Pearson: Yeah. What we learned from our study with the Center for Engagement, Environmental Justice, and Health was that our community is breathing in toxic air over eight hours a day and up to 15 to 20 hours a day in different areas. And so what we know to be true is the air smells different. What we know to be true is that our families are dying and having respiratory emergencies more often than we have in the past. This is directly correlated with the increase in pollution that we are experiencing. And so what we are living, what we are experiencing is, is a direct result of a lack of legislation to protect us from exploitation of this type and of this nature. But what we need in this moment are leaders who have the courage to put that legislation forth and pass it.

Kousha Navidar: I have to ask, what does the air smell like? You mentioned that.

KeShaun Pearson: Yeah. the air truthfully, it is such a unique smell, but it is a combination of rotten eggs and there is an element of some type of metal sensibility about that scent. And you know, truthfully, I would not wish this on anyone. And though my experience, you know, with chronic allergies was difficult, you have no idea what it's like to have to find the nearest... Oof.

Kousha Navidar: Yeah, take your time.

KeShaun Pearson: I have my own family members who I've had to rush to a pharmacy because they could not breathe. They were at literally having an asthma attack in the moment, and we were miles away, and I've never been so fearful in my entire life because I, I didn't wanna know what could possibly happen to the p- people I love, to the person I love. This is something that my family has lived with consistently, and it is continuing to worsen for us all.

Kousha Navidar: The challenges that you're facing right now, I think get put in real perspective when you share stories like that. So thank you for offering it and showing it to us in all these different ways. Let's talk about what there is to be done as well, because you are doing a lot of work. You've also worked with the City of Memphis on a community benefits ordinance to use property taxes to subsidize healthcare for residents, I mean, to, to your point just now. Tell me more about that effort.

KeShaun Pearson: I wanna preface this by saying there is no amount of money that is worth our lungs or worth having a clean, healthy environment, clean soil, and clean water to drink, period With that, and with the understanding that our city is already charging XAI property taxes, though not at the level that they should be, how can we use those property taxes to alleviate some of the stress that is plaguing our community? And thankfully, I was selected and appointed the chair of the XAI Funding Board and was able to provide recommendations to our city administration that will be pushed forward to our city council for vote. And the hope there is that even with all of the proliferation of the extractive ecosystem that XAI has brought to our community with the help of our elected officials, uh, and some of the most powerful folks at the Greater Memphis Chamber, we still are able to carve out some semblance of what our community, can use based on what their needs are, and those needs really do, in this moment, look like health benefits. How are we helping the folks who are suffering the worst? How are we alleviating the time poverty that folks are in because they are having to travel back and forth to hospital visits, and so using these property taxes in that way is something that I think is a hopeful model for how businesses can elect to be good partners, and city governments can create a vehicle to actually alleviate some of the pain and the suffering that communities are facing like ours.

Kousha Navidar: Simultaneously, there are several lawsuits against xAI for the air and the noise pollution from these gas-powered data centers. ideal world, what do you hope these cases will achieve?

KeShaun Pearson: shutting down XAI and shutting down the methane gas turbines that they're using. At this point, we need a moratorium. But what I hope for in all of these cases is that the people's voices are heard and adhered to. What the people need, what the people require is clean air, clean water, and a healthy environment, and we cannot achieve that if these data centers are allowed to continue to build out methane gas turbines that disturb folks with noise pollution. They should be shut off. If they continue to spew out the thousands and thousands of toxins like nitrogen dioxide or formaldehyde, a known carcinogen that causes cancer, they should be shut down. We have to, to be courageous enough to find a different way we are never up against a single person. We are up against the idea that our air, our water, our soil, and our human rights can be infringed upon for the profits of billionaires. People matter more

Kousha Navidar: KeShaun Pearson is executive director of Memphis Community Against Pollution. KeShaun, thanks for joining us. I appreciate it.

KeShaun Pearson: Thank you. Thank you for having me. I appreciate y'all.

Kousha Navidar: Coming up, how a small town in the Poconos reacted to an influx of data center projects that would be built next to homes and schools, and displace residents:

Rebecca Egan McCarthy: People were,very, very strongly against these things. There was a lot of misinformation floating around. But a lot of the issues that residents raised are pretty valid. They know the place where they live very well.

Kousha Navidar: That’s up next, when Climate One continues.

Ariana Brocious: This is Climate One. I'm Ariana Brocious.

Kousha Navidar: And I'm Kousha Navidar.

Ariana Brocious: Archbald, a small town in northeastern Pennsylvania, has become a hot bed for data center development. Multiple projects have been proposed across hundreds of acres, and while some residents welcome the promise of investment, many more are worried. And it's easy to see why, with the potential loss of forests, increased energy demand, and the prospect of industrial-scale facilities being built next to homes, schools, and parks.

Kousha Navidar: The controversy illustrates the broader challenge facing communities nationwide: many local zoning laws were written for a very different era of data centers, long before the rise of AI and hyperscale computing. Now, towns are struggling to understand who's got the authority to approve or deny these projects, how much influence residents really have, and whether existing regulations are equipped for facilities of this size and impact.

[music change]

Ariana Brocious: Rebecca Egan McCarthy is a freelance journalist who spent months reporting in Archbald, attending public meetings and talking with residents, elected officials, and developers. She wrote a story for the online publication Grist and shared her reporting with me.

Rebecca Egan McCarthy: So Archbald has sort of become the epicenter of data center development in Pennsylvania. But Pennsylvania, I believe, is the third largest data center market in the country at this point.

Governor Josh Shapiro has pretty enthusiastically courted data center developers, , and that has had knock-on implications that not everybody is happy about. So in Lackawanna County specifically, I think over eleven data center campuses are proposed, and so a campus itself might include twenty buildings or something. I think at Archbald alone, it's like fifty-one buildings that will cover fourteen percent of the town and about, like, five hundred and seventy-five acres, which is just enormous. It'll completely change the character of the town. These are gonna be right next to residential properties. In one case, they're displacing a residential community, the Valley View Estates, which is a mobile home park. And it's happened very fast, and it's, I think, been very overwhelming, for people who are trying to navigate what this means for them.

Ariana Brocious: you spent a lot of time in Archibald talking with locals, attending town meetings, and from your reporting, the broad sense I get is that these proposed data centers are widely unpopular, and that's partly because they're gonna be built right up against schools and homes and, as you've said, displace residents in some cases. What was just the community vibe, um, when you spent time with people? How were they thinking about referring to, you know, talking about this, this proposal?

Rebecca Egan McCarthy: the community vibe was honestly sort of like abject horror, I would say. People were, like, very, very strongly against these things. There was a lot of misinformation floating around. , But a lot of, you know, the issues that residents raised are pretty valid. You know, they know the place where they live very well. They know what removing trees on the mountain does. There are a lot of landslides. The ground is not very stable because of all the old coal mines beneath it, so there are a lot of like, cave-ins and subsidence and if that isn't handled correctly at one of these data center campuses, it could affect people's houses that are abutting the campus. So I think there are a lot of very valid concerns about, like, you know, what wastewater runoff would do to fishing in the area, et cetera. And like, you know, what it'll do to the wildlife, which is at the moment, I mean,

it's like a big feature of the Poconos is that they just have this enormous natural beauty, that is sort of always fighting against industry.

Ariana Brocious: Yeah, I think in your article you describe the land underneath the town as being like on toothpicks or something. Um, just the history of this coal mining region and there being a lot of past development which has also left its own residue in the form of, you know, tailings piles or things like that. And so who has the power to allow or zone or regulate these developments in Lackawanna County?

Rebecca Egan McCarthy: That is a very good question. The answer is pretty complicated. It technically falls under the auspices of the Borough Council. So in Pennsylvania, towns, what, what most people would refer to as a town are called boroughs. and the Borough Council approved these data centers because when the zoning code was written in two thousand twenty-three, data centers were principally permitted in commercial and industrial zones. So at this point, what people are imagining as a data center is not these hyperscale data centers. You know, it's something that's pretty mundane that you wouldn't necessarily notice.

Ariana Brocious: Like an office park

Rebecca Egan McCarthy: Exactly, yeah. And, at that point, like nobody found that objectionable. So when developers applied to build in commercial zones, they were automatically allowed to do that, 'cause Pennsylvania has these zoning laws that say that you can't exclude a particular industry from a town. You know, like if a dump wants to come to your town, you have to have an area where it can be. So Borough Council approved these plans and sort of moved forward with developing a data center overlay district that would m-mostly restrict developers to industrial areas. But a couple of the developers that had applied earlier were kind of grandfathered into these commercial zones. and sense is, at least, they didn't feel like they had much of a choice, that like their lawyers were telling them, "If you don't move forward with this, these tech companies are gonna sue you into oblivion," which is a valid concern. But the Borough Council was so secretive about it. They were holding, you know, sort of like closed-door meetings. They weren't allowing all of the Borough Council members to be part of those meetings. That's what Council Member Erin Owens told me. and I think that is really what turned people against them in the end, just like this total lack of transparency. And that, resulted in a lot of anger towards local officials when really the people who could do something about this massive influx of data center development are mostly on the state level, and it really goes up to the governor.

Ariana Brocious: Yeah, just to recap there, so the laws at the time some of these were proposed were kind of mismatched for what data centers used to be, you know, they have preexisted this current era. They've been around for a long time, but they've mostly been smaller. And now there are these gigantic multi-building complexes, as you've described, coming in, kind of taking advantage of that regulatory landscape. Why is Pennsylvania particularly attractive to hyperscalers?

Rebecca Egan McCarthy: Pennsylvania it's one of the largest exporters of energy in the country. I think it's second after Texas. so it has-- it does have this massive amount of energy and resources, and it has, vast network of pipelines, used and unused. , It does have pretty affordable land and it has a lot of high-voltage transmission lines, which are all what data centers look for. Since this article came out, it was announced that one of the developers would be building a natural gas plant in Archbald. Three more gas plants are p-potentially being built in nearby Dickson City, so it's gonna mean, like, a huge gas and fracking boom in the state, which I think is also what people are concerned about.

Ariana Brocious: Yeah. So as you mentioned, Pennsylvania Governor Josh Shapiro has been

actively courting data centers. He's introduced measures to speed their permitting and I think to kind of address some of the community pushback. What's the status of the regulations at the state level?

Rebecca Egan McCarthy: The grid plan is his most recently announced regulatory plan in terms of data centers. And he actually went to Archbald to make an announcement about this. It was a surprise visit. And he sort of showed up, and he went to this park that is right now supposed to be bordered by a massive hyperscale data center, which itself will then, sit in front of two more data center campuses and across the street from another one, and on the other side of the park will be a natural gas plant. And this is, you know, like where kids played baseball, in the shadow of these like, um, you know, massive, industrial buildings. Or they will soon. But the grid plan is, in theory, a good plan. It's meant to basically, like, protect energy affordability and incentivize developers to be more transparent and to provide more jobs and to adhere to more stringent environmental requirements. But it's voluntary. So there's no technical necessity to adhere to any of these things. If you do and you take part in a grid plan, you could fast-track development. But that's not necessarily what all developers are going to do. I think they're willing to cut corners in order to get to where they need to go. And also, I mean, like when they say, adhere to strict environmental standards, if your data center requires a gas plant to be built, it doesn't really matter if you're using closed loop cooling to try to protect your water usage. It you're going to produce emissions no matter what. So the grid plan has been criticized by, you know, like Food and Water Watch and PennFuture as, not enough and somewhat toothless.

Ariana Brocious: Yeah, I mean we know also that those methane gas plants are very harmful from a local community standpoint, the air pollution that's generated definitely contributes to global emissions, but it also can be very toxic and harmful to people who live near it. Data centers are being proposed and built all over the country right now. What should average residents know if a data center is proposed in their town or city?

Rebecca Egan McCarthy: I think, doing right-to-know requests or FOIA requests to get all the information about, like, what the plans for the data center are, are the first step. I do think that, like, getting an ordinance in place as fast as possible so that these don't end up being built on, on people's houses in the case of Archbald or, you know, right next to people's houses is kind of paramount. And then I think, you know, like checking to see what chemicals the data center is using, how they're disposing of their wastewater, what the energy mix in your area looks like, and whether they're planning to bring their own energy or pull from the grid. Those are all the questions you wanna be asking if something like this is showing up in your neighborhood.

Ariana Brocious: Rebecca Egan McCarthy is a freelance journalist, and you can find a link to her article in the show notes on our website. Thank you so much for joining us on "Climate One."

Rebecca Egan McCarthy: Thank you. Thanks for having me

Ariana Brocious: As we've discussed earlier in this episode, local and state governments are in a tough spot - with booming data center development and constituent backlash. The result has been a patchwork of new policies emerging across the country. Some are designed to attract data centers, and others are aimed at slowing them down or imposing stricter rules on the industry.

Jason Plautz covers energy and climate policy for E&E News and Politico. He's been tracking how states are responding to the data center boom.

Ariana Brocious: The debate around data centers has been kind of a wild ride for the last year or so. Just as a recent example, one of the newsletters I subscribe to had the following three headlines

back to back in their news roundup. New Mexico County adopts year-long data center moratorium. Texas County rescinds its data center moratorium after a one hundred million dollar lawsuit from developer. And meet the women leading the people-powered push against data centers. So that's a little bit of the lay of the land. Can you give us a high-level sense of what's been changing around state attitudes towards data centers in the last year or so?

Jason Plautz: Yeah, it has been a really fascinating shift, and it's one that sort of defies traditional political, lines, economic lines. there was historically, um, a real interest in states bringing data centers in and attracting the tech industry, and that has really started to shift over the last year, where we're seeing more states not necessarily saying no, but setting some ground rules. Getting rid of some of the incentives that were in place. Saying, "If you wanna come here, you, you have to play by our rules." And that's really reflected the changes in data centers themselves. These facilities have become much bigger. They're taking up more power, sometimes as much power as a small city. And they have really just lit a fire under some community activists, and there's been a real political backlash to some of them, which has then in turn forced state legislators, lawmakers, governors to really rethink how they want data centers to be in their state.

Ariana Brocious: Yeah. So I live in Arizona, which has been experiencing a lot of this , and this is a place where there were tax incentives put out. Now there's a shifting public perception of them. Colorado, where you live, saw a pretty interesting battle of ideas play out in the state legislature this year around data centers. Can you give us kind of a brief summary of what that was?

Jason Plautz: Yeah. Colorado's very interesting because the state right now is not a real hub for data centers. It's not like Arizona or Texas. But lawmakers have really thought, we know they're gonna come. Maybe we need some rules in place. And there were really two ideas that were sort of playing out in the legislature this year. One was a bill that would create new incentives. Colorado is one of the dozen or so states that doesn't currently offer any tax incentives to data centers.This would create new tax incentives, but only for projects that met certain environmental or labor requirements. Then there was a competing bill in the Senate that would just place guardrails on the industry. No incentives, but it says, you know, you have to meet certain clean energy standards, certain environmental standards protect consumers from potential cost impacts. And so there was this idea of do we want guardrails or do we want incentives? In the end, neither of these bills passed. But that was, I thought, a really clear example of what states are considering. Do we want to attract them and have them do it the right way? Do we wanna set ground rules? Or, you know, you look at some other states, , New York and Maine, where lawmakers have said, "We just need to hit pause on this entirely and stop construction."

Ariana Brocious: Yeah. So you mentioned that there is not a real clear partisan divide on what states are doing here, which I think is fascinating. Maine Governor Janet Mills, who's a Democrat, vetoed a bill that would've put a moratorium on data centers, citing the potential jobs impact. Meanwhile, Florida Governor Ron DeSantis, a Republican, signed a bill that would put new requirements on large data centers in his state trying to protect ratepayers from paying for data centers. Why do you think that this appears to be not falling along our more traditional party lines?

Jason Plautz: Well, one reason is that it's happening everywhere. Basically every state is seeing new data centers come in or is looking down the barrel and saying, "Look, we know data centers are gonna come in." And, it just scrambles the state lines. You see, Democrats in Pennsylvania, New Jersey, Illinois are, are looking at, what can we do to regulate or, or get rid of some of our incentives. At the same time, you've got Republican governors from Wyoming, from Utah, as you mentioned Florida, Texas. So it doesn't fall neatly along the political lines that we're used to seeing. But it's also creating a whole panoply of different approaches.

Ariana Brocious: So you've been covering a lot of these different state approaches, these regulations to rein in or regulate the data center industry. What kinds of regulations that you've seen so far are meaningful from an energy, water use, community impacts perspective? And where, and where are those happening?

Jason Plautz: Yeah. you know, some of this really remains to be seen. You know, a lot of these regulations are pretty new. We have to see how they play out on the ground. But some of the, the more stringent ones certainly Florida has, has passed legislation. We saw governors in, as I mentioned, New Jersey and Pennsylvania who have, have both put kind of guardrails on the industry that say you have to bring clean energy online, you have to use clean energy, you have to pay for grid infrastructure be transparent about energy and water use prevailing wages, certain labor standards. That kind of stuff is going to be really important, especially the requirements around paying for infrastructure. That was something that was laid out in President Trump's Ratepayer Protection Pledge, uh, which was a non-binding document. But now as more states look at it, and especially as more grid operators or utility regulators start to look at that could really, start to have some teeth to try to keep additional costs away from the average rate payer's bill.

Ariana Brocious: Yeah, I wanna talk about that. So in March, the White House introduced what they're calling the Ratepayer Protection Pledge, as you said, a voluntary invitation to hyperscalers and AI companies to, quote, "Build, bring, or buy all of the energy they need to run these data centers," to pay for the energy and infrastructure costs. Some big companies have signed on, but from my reading, energy analysts are skeptical that this is gonna really help protect average Americans from some of these costs. What have you been hearing about how impactful this voluntary regulation is?

Jason Plautz: Well, right. It's a voluntary regulation, uh, or, or a voluntary agreement. So it doesn't really have teeth behind it. What would have teeth and, and what we are starting to see are lawmakers start to pick this up or grid operators start to pick this up. You know, what this comes down to is not just the tech companies, are the data center developers paying for the energy that they're going to use, but there are all sorts of other grid costs that come along with it. If you're sending more energy on the grid, that requires new transmission lines, new distribution lines, potentially new substations, new infrastructure. It requires hardening infrastructure to protect against extreme weather. And those are the kind of costs that can end up on ratepayers' bills. Those are traditionally split by all the businesses and homes that are on a grid system. But, there's a certain outcry when you see this large data center is coming in that's gonna require a new transmission line, and now we are all expected to pay for that. And that's what most people wanna see taken off their bills, and that's where we're starting to see more action. States saying, "We need to establish rules to do that." Grid operators saying, "If you're going to connect through our grid, you need to agree to, to cover all this infrastructure." And to their credit, we are actually seeing a number of the tech companies and developers agree to that.

Ariana Brocious: Yeah, and I do wanna point out that these are the most profitable companies pretty much on the face of the planet. So these costs to them are so infinitesimal, as a proportion of the overall revenue they expect to get from all the data use, right, and the computing that they're providing. In a recent article you wrote, there was a line that caught my eye, which is that in West Virginia, lawmakers have considered legislation that data centers can only get tax incentives if they rely on coal power, which to me seems like a pretty clear indication of lawmakers trying to kind of, you know, bend these, data center regulations toward their own political ends. How much of that is happening, where this sort of power source, whether that's fossil or renewable, is being a bargaining piece here?

Jason Plautz: Absolutely. That's a big piece of this. That West Virginia example I think is one of the

most, most extreme ones. But there are proposals in many blue states that say you have to bring clean energy onto the grid or offset your use with new clean energy. You know, this responds to a concern that, that we're seeing that some coal plants are being extended, natural gas plants are, are being extended or built or leaned on a little bit more as power demand on the grid grows. So you have lawmakers in states that have renewable energy goals are saying, "If you're coming into our grid and, and our state, you have to use 100% clean energy." And a number of the tech companies have these internal goals as well. that they're trying to meet. And many of them have said, "Yes, we will bring clean energy onto the grid."

Ariana Brocious: Some of the opposition to all of this data center development is really around the utter lack of transparency around most of the projects, many, many of these projects. People often are surprised when this project is coming into their community. Sometimes even local officials are blindsided. Are you seeing any attempts to change that at the sort of state regulatory level?

Jason Plautz: That has been a real sticking point. that projects will you know, move far down the process before the public knows about them, or as you said, even some local officials or regulatory officials know what's really at play here. And there is a lot of work to try to increase transparency. Something that Pennsylvania Governor Josh Shapiro put in his rules is that you have to disclose sort of every aspect of the project, so that's energy use, water use, but also who's going to use the project as it's being developed. I've done some reporting in Arizona. There was a, a very controversial project there called Project Blue, and a lot of the frustration from, from community members and from some local officials was that they weren't getting the full details about this project before they were being asked to vote

Ariana Brocious: I have to interject because this project is in my hometown. This is Tucson. Yes, and, and you are absolutely correct, and the non-disclosure agreements were seemingly just happening left and right. But

Jason Plautz: Yeah, it's, it's just wild.

Ariana Brocious: Please continue. I didn't mean to cut you off

Jason Plautz: Yeah. So this Project Blue in Arizona, there was a lot of outcry about transparency, about whether people knew enough about the project before they were being asked to vote on it. And that, again, has led to changes on the, on the local level and on the county level that requires these projects to be more open, before, it reaches the public and before it reaches the voting stage

Ariana Brocious: Yeah, that project has gone through iterations, and it's, it's really interesting the way some of these, can almost have a zombie life. You know, if they get knocked down in one place, they come back again. Given the pace of bills moving through state legislatures, many of which, you know, don't meet the entire year. Do you think they can keep up with the speed of this data center build-out? Or, or do we have to have, more of the, like, moratorium approach while the regulations come along?

Jason Plautz: I think the pace of everything is, it's moving faster than anybody could have imagined. I mean, you, you just think back, - it's only been a few years that we have had ChatGPT and Claude, on our desktops and, and on our phones. And now we're seeing these data centers, sometimes using as much energy as a small city are popping up and being built really rapidly. As you pointed out, not every state legislature meets every year. They don't meet for the full year. And a lot of them are just trying to figure this out. Only a handful of states have passed bills or have moved executive orders. And, you know, folks are trying to look across state lines to see what works and what doesn't, what brings in companies, what repels companies. So it's, it's really kind of a Wild

West at this moment, and we're gonna see some action from the federal government potentially. We're talking before, uh, the Federal Energy Regulatory Committee is set to release some rules about co-location, and interconnection for these large loads. But we're not really gonna see a top-down rule, coming anytime soon. So I think there's gonna be a lot of playing catch up on the state level and, and just a lot of, uh, really, really rapid movement over the next few years.

Ariana Brocious: Well, we'll have you back to give us another update then. Jason Plautz is a reporter with E&E News and Politico. Thank you for joining us on Climate One

Jason Plautz: Thank you so much

Kousha Navidar: Coming up, how data centers could be better neighbors.

Astrid Atkinson: They don't wanna be bad grid citizens for the most part. They wanna interact well with the public infrastructure of the grid, pay their own way, not be bad neighbors, not drive up rates for other customers.

Kousha Navidar: That's up next, when Climate One continues.

Ariana Brocious: This is Climate One. I'm Ariana Brocious.

Kousha Navidar: And I'm Kousha Navidar.

Ariana Brocious: Until fairly recently, connecting a new data center to the grid was relatively straightforward: find a site with enough available power and.. plug in. Okay, maybe not that simple. But still, the speed at which data centers are being built now, and the enormous energy demands they have, are changing that equation.

Kousha Navidar: New data centers are often several times larger than their predecessors, and utilities are running out of places where these facilities can be connected without major upgrades to power lines, substations, or generation resources.

Ariana Brocious: Because of that, companies are getting creative. Some want to build dedicated power plants for their data centers – usually fossil fuels like methane gas or even coal – while others are co-locating facilities next to existing power plants to gain faster access to electricity.

Kousha Navidar: But those choices raise big questions: How do we meet growing demand without driving up costs for everyone else? And can data centers become partners in strengthening the grid and a clean energy transition?

[music change]

Kousha Navidar: To better understand the challenges, and potential opportunities, of powering the next generation of computing, I chatted with Astrid Atkinson, CEO and co-founder of Camus Energy.

Astrid Atkinson: The American grid has not seen much increase in load in twenty years. The last really big increase in load on the grid came from when people rolled out air conditioning on a large-scale basis

Kousha Navidar: Oh, wow.

Astrid Atkinson: more than 20 years ago.

Kousha Navidar: that puts it in some interesting perspective. Wow. Yeah

Astrid Atkinson: It might actually be longer than that for a lot of regions. Most utilities year-over-year load growth is maybe a percent, half a percent for the last twenty years. Utilities are not really equipped to add a lot of new demand today. They just don't have the practice in doing that. They don't have the muscle for it just in terms of precedent. What's that look like? How would you do it? Do people on the team know how to do it? No, this is a new problem, um, at least for, in terms of the folks who are tackling it today. And it is one that we need to solve because we do need to get a lot more power you know, onto and through the grid for all the things we wanna do. Electrification, data centers, factory build-out, all of that stuff is held up by the limitations of being able to get more stuff plugged in today.

Kousha Navidar: So we've got this landscape where, both the physical footprint and the demand for energy generally is rising way faster than what we've experienced. And then these folks are trying to get around all these bureaucratic but also just pragmatic issues of where the energy comes from. So, tell us about the work you do at Camus, and what flexibility means in your world.

Astrid Atkinson: Yeah. So, we're a software and solutions provider. We work with both utilities and data centers to basically try to help data centers get opportunistically connected to the grid for some of their power where they could then also supply some of their power from on-site generation or even on-site battery. So it's basically this idea that you could get in most places, you know, some power from the grid most of the time, but maybe not a hundred percent of what you need. And just to, just to kind of explain what that means in practice, imagine you're booking a hotel room for you and ten of your friends.

Kousha Navidar: I'm there with you, yeah.

Astrid Atkinson: Yep, if you go to the utility, which is your hotel, and you say like: "Look, I need ten rooms for the next year." The way that the utilities do planning for the grid today is to say like, "Oh man, those ten rooms are available almost the whole year, but for like three days in September, two of those rooms are booked. So no, you can't have your room reservation." And you might naturally ask, "Well, could I, could I double up on some rooms? Could I go stay with a friend for those three days in September and have the entire rest of the year?" And the way we plan the grid today, the utility will say no. And that's for reliability reasons. It's 'cause of how the grid has been run and planned up until now. But you might notice in this analogy that those hotel rooms are sitting empty the rest of the year. That's how the grid works too. So there's actually a lot of additional capacity potentially available on the grid, but we have to use it a little bit differently. And so that's what we do. We try to help utilities and data centers think a little bit differently about how their grid connection's gonna work so that it-- you could flex down those three days of the year and use your desired resources, the rest of your grid power for the rest of the year. The folks who build data centers have money, and they have options for how they think about their power profile. And so while in general, it's not very desirable for them to not have all the power they want all of the time they have the resources to be able to, say, put in batteries to cover those gaps.

Kousha Navidar: I mean, I'm thinking of hyperscalers here, Amazon Web Services, Microsoft, the folks that run cloud computing that are really driving a lot of this hyperscaling of data centers. We're using terms like flexibility here and, and like going to stay at a friend's house, at a, at a hotel. What's the incentive for Google to be more flexible, especially if it's, like, getting in the way of profit?

Astrid Atkinson: Yeah. Well, firstly, they're not gonna be staying at a friend's house for their compute capacity. They're gonna be buying a bunch of batteries to cover the gap. Um, or even maybe putting in, you know, some additional on-site fossil generation. But you know, again, running

two power plants for a couple days a year is really different than running 37 power plants all of the days of the year. So still definitely an improvement. Their motivation is that they really wanna get access to this compute capacity that is gonna go in the data centers more quickly. it's really important to them to be able to get more computing power out there this year rather than waiting, you know, three to five to seven years to connect to the grid or even to build your own power plants.

Kousha Navidar: So it's really the urgency there because in one hand you're saying be a little bit more flexible, but what you get is, the speed of which you can actually get the data process that you want and get these centers up and running. Otherwise, bureaucracy is gonna require you to wait three to seven years. Is that fair?

Astrid Atkinson: Yeah. Yeah. And for these, hyperscalers, the opportunity cost for every year that they don't have a gigawatt of data center capacity, is estimated and depending on who you ask, between about $5 and $10 billion a year of, you know, money lost for not having that data center capacity available to them. So you can, you can get really creative with, you know, $10 billion. You can build a lot of batteries

Kousha Navidar: Mm. So I've heard the argument that we should capture this abundance of money and interest from hyperscalers and essentially make the hyperscalers pay for grid upgrades and massive renewable energy build-out, because it would help them and the rest of the country and perhaps make them less controversial in the narrative of, like, AI destroying everything. What do you think about that, about making them pay?

Astrid Atkinson: I think they really would like that, honestly. Like, it, you know, it depends who you talk to and how much, you know, the devil's in the details for all of these things, right? But they don't wanna be bad grid citizens for the most part. They wanna interact well with the public infrastructure of the grid, pay their own way, not be bad neighbors, not drive up rates for other customers. But you have to figure out how to do that. And the way that we've done interconnections for these large sites to date has not always accomplished the goal of sort of fairly distributing who pays for what. And so it's really important as we think about interconnections for these sites to be very thoughtful about the pricing structures under which they get connected. And it's really some of these, these conversations around how much other consumers of the grid g- end up getting charged for large load additions, that has driven a lot of the controversy around the idea of, you know, data centers driving up people's power bill making power much more expensive for neighbors. Nobody wants that. It's bad for everybody.

Kousha Navidar: So how do you approach it thoughtfully then? Like, is that just because that was business as usual and there is now the counter-narrative coming in and it's just a matter of time? Or is there something that's keeping business as usual in terms of putting the load on customers?

Astrid Atkinson: Historically, utilities have what's called an obligation to serve where they absolutely must provide power for anyone who shows up needing to use it. And. in the past, that has created, you know, a level playing field for people who needed to use power making sure that everybody could get access to it fairly. But now that's causing problems. The obligation to serve even the very, very largest customers who may be bringing load that's, ten percent of the utility's current load. The amount of upgrades that are driven to support that data center are just really disproportionate to how that looked before. Now, people are already seeing bills go up around the country, and that is not yet from data centers. 'cause those new sites haven't been built yet, for the most part. So any bill increases that come from data centers go on top of what we've already seen. And so, you know, it's part of why folks have started talking about building their own power plants, just to say like, "Well, the easiest way to not pass costs along to other customers would be to build our own power plants." But that's not desirable for a number of reasons. the biggest one being the

environmental impact. The carbon emissions from enough natural gas power plants to power an entire gigawatt data center are very, very significant. Like some of the recently announced sites that run into the six to eight gigawatt range, you know, there's one that was recently announced in West Virginia, it will triple the carbon emissions of the state of West Virginia, which was already very carbon intensive. Versus, you know, let's say that you plug your data center into the grid most of the time, and then occasionally run the natural gas plants when you need to fill in some gaps for what's available from the grid. You know, that's a fraction, maybe one or two percent of the emissions that would have been added through the self-powered model. So even though it could maybe have an impact on rates and grid costs to plug these data centers into the grid, we really need to plug them into the grid for emissions reasons. And so that means that we just need to do the hard work of figuring out exactly what is the right cost structure so that the data center will pay for any upgrades that it drives as well as its own power.

Kousha Navidar: It's such a multi-stakeholder level problem just in terms of figuring out pricing structure and the discourse happening all around the country. And I know that the Trump administration is pretty supportive of data centers, and there are some efforts by the federal government to accelerate the build-out of AI infrastructure and skip permitting timelines. I'm thinking of FERC and EPA. What do you think about those policies?

Astrid Atkinson: I think policies are always a very complicated topic. Broadly pushing for data centers to pay their own way, which has been part of those initiatives, is a really good idea. I think that it's very important that data centers pay their own way in terms of their costs being added to the grid, because otherwise we will end up seeing it in our own power bills, and nobody's gonna be happy about that. Frankly, not even the hyperscalers want that, right? Because people just get mad at them, and they don't, they don't want that. some of these efforts can be very positive for the communities. Others are probably gonna be more unpopular

Kousha Navidar: Can you tell me how it's more positive for the community? Like skirting or changing permitting requirements to get these up and faster. How does that help out the community?

Astrid Atkinson: So some of the federal efforts that have been coming through from FERC in particular are pushing to provide a fast track for connecting data centers to the grid if they provide flexibility. ,And then there's some additional federal regulations that have been, , at least discussed to talk about requiring them to pay their own way in terms of grid upgrades if they do that. Those two things could be very good, both for data centers and for communities, for example, China's adding about a hundred gigawatts of generation a year to their grid. The inability to add that kind of scale to our grid here in the US quickly is a limitation on economic growth, on American business, on our ability to innovate, not just in the data center space, but, you know, people trying to build factories have trouble plugging in. You know, people trying to expand power availability for EV charging fleets really struggle with that here. There's lots of reasons why we need more power, and I think that there's definitely a role that the feds could play in helping to speed that up. And so providing guidelines around how large loads can get served more quickly, expediting some of the permitting rules around things like transmission system build-out, those things can all be really helpful.

Kousha Navidar: You're, so you're saying 'cause there's positive externality associated with it, a forcing function of having faster, efficient, fair ways of connecting to the grid and supplying more power. EVs, factories, bigger economy, et cetera. That kind of thinking.

Astrid Atkinson: Yeah, and even on the data center side, we all use data centers every day, right? I'm traveling right now. Every time I look up like, okay, what cafes near me are open right now? I'm

talking to tens of thousands of servers housed in data centers that will be able to answer this question for me. These interactions underlie our daily, you know, kind of day-to-day lives, um, that is also powered out of data centers. It's not just AI. AI is driving a lot of the big increases, but, , in general, we do need more computing capacity, and we do need more power.

Kousha Navidar: Astrid Atkinson is CEO and co-founder of Camus, a flexible grid connection software platform for data centers and electric utilities. Astrid, thank you so much for coming on.

Astrid Atkinson: Thank you so much.

Kousha Navidar: And that's our show. Thanks for listening. You can see what our team is reading by subscribing to our newsletter – sign up at climate one dot org.

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