Goldman Sachs Exchanges

The Outlook for Data Center Power Demand as AI Token Use Grows

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Date of recording: August 12, 2026

Brian Singer: Now put in perspective, kind of what is AI doing from a power demand perspective? It's adding the power equivalent of the whole country of Japan, which is the number five power consuming country. So, this is really significant.

Allison Nathan: The last time we sat down to talk about AI and power, the debate was whether the grid could handle it. That question has now been answered in basically the least comforting way possible: partly, unevenly, and expensively.

Welcome back to AI Exchanges. I'm Allison Nathan, and I'm here together with George Lee, the co-head of the Goldman Sachs Global Institute. Together, we're co-hosting a series of episodes exploring the rise of AI and everything it could mean for companies, investors, and economies.

[MUSIC INTRO]

George, great to see you again.

George Lee: Great to be here.

Allison Nathan: So, George, let's first set the table for people who have followed this series. When we first covered this topic, the shorthand was basically that AI would drive a step change in data set or power demand after nearly two decades of essentially flat electricity load. But since then, demand forecasts have gone up again, even as we've discussed many times, models have become more efficient.

The binding constraint has migrated away from megawatts and towards what I think of as all the Ts. We have turbines, transformers, transmission, and tradespeople. So, new constraints entering the picture, and the politics

have arrived. So, we have regulators, ratepayers, and neighbors now really having a seat at the table and having a lot to say about this topic.

So, before we bring in the experts, George, what's the single biggest thing that's changed in your mind on this topic?

George Lee: Well, I think one thing that kind of syncs with my expectations is the demand cycle continues. And what's fascinating is to watch as you described, the supply chain gets stretched all the way back from models, but to all of the physical affordances, really almost all the way back to the base elements. And so, this is one of the most complex, intricate, and global supply chains in the world. It'll be fascinating to talk with our guests today about how that's playing out, where the real bottlenecks are, and whether we can navigate those bottlenecks and the political issues you described.

Allison Nathan: Yes. So, we have brought in what we think of as exactly the right people to talk about this and help us untangle it all. Joining us again are my colleagues in Goldman Sachs research, Brian Singer and Carly Davenport.

Brian is the global head of GS Sustain, and he thinks about the innovation cycle and the sustainability trade-offs of all of this. Carly is our America's utility team senior analyst. She puts the numbers on just how much power we're going to need and where it's all going to come from.

So, Brian, Carly, welcome to the program.

Carly Davenport: Thanks for having us.

Brian Singer: Thank you.

George Lee: Great to have you both.

Allison Nathan: Carly, let's start with you. You and your team recently raised your overall U.S. power demand outlook. What prompted that change and where does it leave us in terms of power demand?

Carly Davenport: Yeah, so we recently raised our forecast up to a 3.5% CAGR through 2030. And that was up from our prior forecast of about 3.2% CAGR through 2030. And we continue to be convicted in the demand cycle, as George

was just mentioning. As we think about where we sit today in power demand growth, year to date we're up over 4%. And so, we feel like we're already on our road to maintaining that 3% CAGR through 2030.

Now, what drove that forecast change? The main thing was a positive revision in our data center power demand outlook. We used a data set from 451 Research, and we saw a couple of things change. One is a lot of new projects were added to the queue as we continue to see focused development in this area. And that has taken our data center power demand in 2030 up to about 108 gigawatts, up from about 83 gigawatts before. So, there are new projects being added. That's point number one.

Point number two is we're also seeing increased utilization of the existing data centers that we have. So, we've seen vacancy rates on data centers in the U.S. coming down across all of the major data center markets. They're sitting today around 1% to 2%. Over the last few years, they were ranging from about 2% to 7%. So, we're seeing increased utilization and occupancy of existing infrastructure in addition to the new projects that are getting added. And we forecast about a 3% vacancy rate in 2030 on a U.S. average

basis.

George Lee: So, Brian, it seems like just yesterday you were here with us, but it was March. And at that time, you had just raise your data center power demand estimates. So, here we are three or four months later. Last year, we talked a lot about the impact of potential efficiency gains on that number. How has it played out from your perspective, especially with the rise of agentic AI, which remarkably, it was starting to inflect at the beginning of this year, but has only continued to grow?

Brian Singer: Yeah, good question. If we go back to that period at the beginning of March, we were projecting and our analysts were projecting hyperscaler spending was at about $1.2 trillion for 2027. That's $1.7 trillion now. Hyperscaler spending for 2029 was projected at $1.5 trillion. That's today at $2.1 trillion. So, let's just start right there. That's a significant increase over a multi-year period in hyperscaler expected spending.

Now let's work our way down to get to power demand. And Carly referenced the 25% increase in 2030 capacity buildout. Additionally, our TMT teams have raised their

expectations for the shipments of AI related servers. So, it's hard to ignore when you have all of those factors to not further raise forecasts, even though it's only been a handful of months. And so, that's what we've done.

If we look globally, so not just the U.S., but globally, we see data center power demand in 2030 up about 170% from 2025 levels. We were at about 117% back at the beginning of March when we last spoke. So, to put in perspective, what is AI doing from a power demand perspective in addition to data centers, if we start the clock at the beginning of 2024, so the seven-year period through the end of the decade, it's adding the power equivalent of the whole country of Japan, which is the number five power consuming country. So, this is really significant.

Thus far, to your question on productivity, we haven't seen the productivity gains impact and negatively impact tech R&D budgets. And this is the big question out there as we think about the cycle is, when will we get to a point where consumers will see these productivity gains and say, instead of spending the same amount of money and consuming more tokens and compute, I'm going to spend less money and consume the same tokens and compute. I

don't think we're there yet.

Are we at a point today where consumers will think well we can lower our tech R&D budgets and not worry about our competitive positioning? I'm not sure we're there yet. Now you're in the middle of this and in the weeds every day. So, I'm certainly interested in your view.

George Lee: Yeah, I think what's fascinating about it is that all those expected or anticipated efficiency gains are actually happening. And yet, the demand profile is both recovering those and expanding at the rate you described. So, the hill you describe is so steep on its face, but it's actually almost greater than it would seem because there is token efficiency taking hold in all of these systems. There's efficiency throughout the supply chain. And we're overwhelming that with demand. So, I think it even punctuates the demand profile even more strongly.

Brian Singer: Yeah. One thing we are seeing consumers doing, and I don't know if you're seeing this as well, is really taking a bit more of a closer look at how they're consuming tokens and where they're consuming tokens. And that I think is the beginning of some level of

trying to reduce consumption intensity without necessarily negatively impacting output. I'm sure we'll see more of that, but that doesn't mean that the aggregate token consumption interest isn't still pent up.

George Lee: Yeah. And one of the dynamics I'm observing is as we garner that efficiency, and we think more judiciously about token usage, what that does is actually it opens the horizon of economically addressable tasks within the enterprise. Tokens get cheaper. You're more efficient with their usage. And that expands the demand or the addressable market for this commodity. And again, fascinating set of multiple dynamics playing out beneath the waves of your very ambitious estimates.

Allison Nathan: Let's bring this back to power demand, Carly, because you've done a lot of work on the implications regionally for the U.S. What surprised you most about where demand is growing and what's driving that?

Carly Davenport: Yeah, let me maybe start with where we are today. The top three data center power demand markets in the US are PJM, which is the mid-Atlantic

market that houses about 35% of data center demand today. Second is ERCOT in Texas. That houses about 15% of data center demand today. And then there's a tie for third between the Southeast and the Pacific Northwest, both housing about 13% of power demand.

So, what do we expect to change or not through 2030? Firstly, we expect PJM to remain the dominant data center market in the US through 2030. We think that they'll maintain their share at 35% of overall U.S. power demand. And there are a few things we think remain attractive about that market. There's a lot of merchant nuclear capacity there that data center companies like. There's a high voltage transmission backbone. And you have a lot of existing data center clusters there that we think make it attractive for continued development.

The second takeaway we've had from our analysis is, what's surprising to us was that the MISO market, which is the mid-continent of the US, so think from Minnesota down to Louisiana, is going to overtake ERCOT, the Southeast, and the Northwest and become the second largest data center market in the U.S. by 2030. We think they'll make up about 16% of the data center market in the U.S. by

2030.

And what's interesting about MISO is you have a lot of regulated utilities that are actually building the power generation capacity for these data centers versus a developer doing it, as you would see in a PJM or an ERCOT market. And so, we see states like Iowa, Wisconsin, Louisiana, and the regulated utilities there driving a lot of this acceleration in the MISO market.

And then lastly, ERCOT in Texas, we think you'll still see strong growth there. We see ERCOT as the third largest data center market in the U.S. by 2030. We think they'll make up about 14% of overall data center demand by the time we get out there. And Texas has been a big focus recently, given some of the governor's actions around auditing data center projects. So, there's some uncertainty on that growth outlook today. But where we stand now, we still see them as an important data center market.

Allison Nathan: And why do you see the regulated utilities playing a bigger role in MISO? What's their motivation for that?

Carly Davenport: Yeah. I think one part of it is it's a one-stop shop, right? You come to the utility. They have the relationships with the regulators. They have the relationships with the community. They can give you everything from the power plant to the transmission to the distribution. And you're working with one counterparty. Versus if you're in a deregulated power market, you're having to work with the power developer for your power plant. And then you're still needing to work with the utility for your grid connection. And so, it's a little bit more, I think, of a complex negotiation. The other piece of it is in a regulated utility market, the regulators have full control over what is being charged to customers at every point of the value chain. You don't have supply-demand dynamics necessarily driving pricing. It's set by a regulator. And so, you can better manage some of the concerns on customer affordability, we think, in the regulated markets.

George Lee: So, Brian, you and I sang in harmony on the demand picture, but the real question is can supply keep up with that very ambitious curve? You have a framework that you've updated on sort of a theory of constraints in this. Talk through how you see the headwinds relative to our ability to build enough supply.

Brian Singer: Sure. So, the good news as we highlighted is we have made these upward revisions to the long-term outlook. But at the same time, there are these growing constraints. And when we last spoke in March, we talked about the six Ps. I know you have some great Ts and I totally agree with Allison, your Ts.

George Lee: Right? We're going to steal the 4 Ts.

Brian Singer: We've talked about the six Ps that are both driving and constraining power growth. We've actually subsequently added a seventh P. So, let's dig into them. So, the first is the pervasiveness of AI. It still seems that is now a driver of growth as it continues to expand size and scope. Then there's the productivity of servers, chips, models. And it doesn't look like today that is driving as we talked about any kind of downward moves and budgets. Demand is still pent up.

Then there's the price of power. This we see as less of an issue and less of a concern for the hyperscalers. It is a big concern, as I know we'll talk about, for everyday consumers and communities. Policy. Now there are three sub-Ps

within that. And Allison, I think you referenced it a bit. There's permitting. There's pushback. And there's populism. And that is certainly rising as a potential concern and constraint. Although, at the same time as I know we'll talk about, some of the governments are saying, "Hey, we just want to tackle this issue and just make sure that it doesn't become a longer-term constraint by trying to actually get the right regulations in place today."

So, then we get to parts. And these are a couple of the Ts with the transformers and turbines. One of the major turbine manufacturers on their most recent conference call said that they expect that by the end of this year, they'll be halfway sold out for 2031. So, this is still a significant potential constraint. And it's not necessarily a constraint on overall power demand. It's a constraint at how power is being sourced. I know we'll talk a little bit about that a bit more, but we still kind of think, and Carly has really taken the lead on this, that we'll see more natural gas simple cycle in the near term. And we'll see more renewables plus battery storage in the near term. Natural gas combined cycle in the medium term. Nuclear in the longer term.

Then we get to people. We are still absolutely in need of

more electricians, welders that can handle high voltage connectivity. When power demand wasn't growing at all, which was the case in the U.S. for a decade, there was little incentive to go into these fields. And now, the expectations have changed so significantly that it just takes a while to respond when you need four years of training at least to be able to be effective and be certified.

So, the new P and the last P is physical environment. And this really relates to data center cooling. We've taken a harder look at where these data centers are being built, and the ambient conditions associated with that. More than half of them are built in areas with elevated physical risk, either extreme temperatures, humidity, drought. And that limits some of the options, especially for modern data centers when it comes to certain of the cooling technologies. And it opens up a trade-off of you either consume more water and less power or more power and less water. In places like the U.S., we think the priority is going to be minimizing water use. And that could actually lead to the deployment of technologies that otherwise drive higher power usage effectiveness and lower water usage effectiveness.

Now, those priorities aren't the same everywhere in the world. Our analysts' view in China is that it's actually due to some of the regulations, their priority is minimizing power consumption. And so, in the areas in which the ambient conditions force this trade-off, that might otherwise lead to higher water usage effectiveness and less on the power front. So, there're a lot of pieces that are going into this here. And that's how we kind of see the constraints.

George Lee: Brian, what's interesting is Carly mentioned ERCOT as a real growth area for this infrastructure. But there are some physical condition limitations that sort of exemplifies this tension between power and water supply, right? You think about the western part of Texas in particular.

Brian Singer: That's right. And I think the cooling technologies are still improving. And it's always hard to bet against the engineers. And certainly, when you have so much capital going into the innovation behind this, it's fair to expect that there are going to be some improvements over time. But nobody wants, and I know we'll talk about this in a bit; nobody wants water outages. Nobody wants

power outages. And while there have been strong innovations, there are still these trade-offs that are forcing the issue of power versus water.

It's a lot more expensive to find new sources of water than it is to find new sources of power. And that's in part why, at least in the U.S., we think water minimization is going to be the priority.

Allison Nathan: As I'm listening to you both, essentially, we have these astonishing numbers on the demand side. But then this laundry list from Brian about the constraints to supply growth. So, are we just headed for a very big gap between demand and supply here?

Carly Davenport: Yeah, it's certainly getting tighter in certain regions. We don't forecast a nationwide power shortage by any means. But there are certain markets that we think are getting critically tight. I think PJM would be at the top of our list there.

George Lee: Yeah.

Carly Davenport: ERCOT today, we don't view as very

tight. We think it'll get tight as demand ramps in the 2028 time frame. But I think when you look at some of the markets, and I'll again reference the regulated utility markets, you are seeing a lot of capacity, being power generation capacity, being added to the grid. And as Brian alluded to, we see an all of the above approach required to serve all of this demand. So, we expect to see a lot of natural gas. About 60% of data center demand we think will be met with natural gas. 40% we think will be met with renewables.

There are a few one-off nuclear power plant restarts that will help bridge some of that gap as well. But it is really all hands on deck to try to get as much of this capacity online as possible.

The one other piece that I would just mention is we talk a lot about the grid and the grid's availability and capacity to house all of this load. There's been this solution called behind the meter that has come up a lot more lately. And we think some of the pushback and the physical constraints that you've seen in markets like Texas have really built a stronger case for behind the meter. And that basically is just an on-site power solution that is islanded

from the rest of the power grid. So, you don't have to worry about can I get connected to the grid or not. You can just serve the data center with your on-site power plant.

And we recently raised our estimates there as well. So, we think you'll see about 30 gigawatts of behind the meter gas capacity by 2030, which is about 20, just over 20 gigawatts of power delivery. So, that makes up about 20% of our data center demand estimate by 2030. So, we think it's not only a mix of resource on the grid, but it's also a mix of on-grid and off-grid that's going to serve this demand.

George Lee: One nuance there that I think's fascinating is clearly there's a big growth in behind the meter solutions. But they may not be permanently behind the meter, right? Part of what's driving this is the extraordinary length of the interconnect queue. But I think one of the promises for regulated utility consumers is that capacity and supply is being built that ultimately might be reconnected to the grid and provide a little bit more resilience or a different supply demand equation for them. Is that the right way to think about it?

Carly Davenport: That would absolutely be our view, that

behind the meter is more of a bridge solution and it is not a long-term solution. Because we've heard time and time again from the largest data center customers that their preference is to be grid-connected. The grid offers a more cost-effective and a more reliable solution for, especially, large customers. If we're talking multi-gigawatt scale type of data centers, you need the grid as a resource over time.

We are seeing some projects have the flexibility to do both. If you have a project that's supposed to start in 2028, you can't get your grid connection. You can go behind the meter and then transition over time. That's sort of the way we would think about it.

Allison Nathan: And regulators are actually tightening their stance on a lot of these connectivity issues. So, Carly, walk us through what that looks like today for companies dealing with this issue.

Carly Davenport: Yeah, I mean, I think the regulatory uncertainty on how data center connections will be handled is probably the single most important issue facing power and utilities companies today. The queues today are lengthy. You could be sitting in the queue from anywhere -

two, three, five, seven years depending on which regional grid in the U.S. you're trying to connect to. And that is a big deterrent for these data center customers that want to be up and running yesterday.

So, I think the way that we're thinking about what are the mitigants that our companies are trying to put into place to address that. One is behind the meter. And then in the regulated markets, we're seeing a big push towards these special tariff structures that create a, one, standardized and two, transparent formula that you can offer to a data center customer that already has the regulator stamp of approval to just try to streamline the process and make sure that everybody's on the same page about the timelines, the financial requirements, the customer protections that are needed to make sure that if and when you can connect to the grid, you're not going to put other customers at risk, whether that is of risk of reliability issues or risk of significant affordability implications.

Carly Davenport: And so we think that the proactive movement towards those special tariff structures in the regulated markets, coupled with new communications that we're seeing from the utilities around quantifying customer

bill savings, or also agreeing to not raise their rates to customers for a period of time, is a way that the market can still prudently accommodate data center growth without putting at risk reliability or affordability.

George Lee: That's certainly the economic theory of the case. But this collides with something that Allison referred to earlier, which is another P, populism. The pushback that is occurring in communities relative to building this supply, which, as you say, has a lot of both resilience and economic benefits. But it's getting increasingly challenging, particularly, I would think, in the PJM corridor, which is pretty densely populated. So, how do you see that tension playing out? This is to both of you.

Brian Singer: Yeah, I can start. It is hard to see how this goes away quickly because there is just an understandable long history of nimbyism, even before we delve into the intricate details of the potential solutions. Now, we broadly see five different areas of the populism pushback, however we want to, whatever P or T word we want to use. The first is, there's going to be a power outage. There are solutions and some of the governments are actually putting that into place. It's becoming license to

operate for the data centers to be willing to be disconnected or to be cut off in the event, the grid is about to undergo an outage. So, interruptability is a potential solution to that.

The second would be power price surges. Carly referenced the take or pay contracts that are increasingly being signed. And some of that works in certain regulated areas. And the unregulated areas are trying to sort through it, especially on kind of the transmission side and the capacity side. But that is a potential solution.

The third is on the waterfront. Well, closed loop cooling that doesn't consume water on a continuous basis and dry cooling, whether it's air cooling, whether it's chillers or dry cooling, those can be potential solutions. Again, some come with greater power demand. But that's a solution on the water minimization front.

Then you've got noise. And there are some noise abatement technologies that can be put into the data centers to minimize some of that impact on the local community. And the last, which is a bit more in kind of niche areas, would be if the heat coming out of the data centers from the cooling rejection actually raises temperatures in certain

communities. And there are areas like Finland that are actually doing waste heat capture. So that's a potential technology. Maybe you need a colder environment to actually have a market for that.

I guess the point is that there are actual solutions that can actually help mitigate the five major concerns. But again, that doesn't mean this is going away.

Carly Davenport: Yeah. The only thing I would add is our view has been that the community pushback is real. The customers are also very aware of it. And I don't think there's a big interest from them to force their projects into communities that don't want them. The message that we've gotten from a lot of our power and utilities companies is that for all of the communities where you're seeing really loud and strong, and reasonable pushback, there are other communities that are still actively courting data centers because they want the increase in the tax base. They want the construction jobs. They want the investments into the local community infrastructure that the data center customers are often providing.

And so, we think a lot of this maybe could create some

more geographic concentration in where these data centers ultimately locate.

Allison Nathan: But those communities want it until they get it. And then they are living through these issues and problems. So, we'll see how that evolves.

George Lee: Yeah, I think you make a great case, Brian, for the facts, I think, conspire against many of the concerns, and there are technology mitigants. And yet, this is a matter of popular opinion which gets shaped in all sorts of different ways. And so, it'll be really fascinating.

As a child of the 1970s, I watched the nuclear power industry fall afoul of populist and political opposition. And certainly, it is in my mind that could be a real constraint to our ability to build the necessary supply here.

Brian Singer: How much of this, George, do you think could also just be a bit of a trepidation on AI generally and not necessarily communities feeling like, okay, we want to be all in on that, versus other industries in which they've supported development in the community? And maybe there's a job angle to this as well.

George Lee: I think the fact that it's adjacent to AI and therefore inherits some of the trepidation, as you say, about that is absolutely an issue. But it's pretty profound. I read a survey recently that said that a plurality of Americans would prefer to have a nuclear power plant in their neighborhood versus a data center. And while nuclear power plants are quite safe, demonstrably quite safe, you know, that's a real commentary.

So, again, I think this is going to be in some ways of all the things we've discussed here about the physical constraints, the supply chain, the locality, the grid connect, this dimension of popular sentiment might be the steepest hill we have to climb in getting to the right balance of supply and demand here.

Carly, I want to ask you about this because we focused a lot in this discussion and in prior discussions on hyperscaler balance sheets, capacity, appetite to invest. But also, that's equally true for the regulated utilities and unregulated utilities. Do you see that their capital availability and access will be able to keep up? And what are the constraints there? They're a little bit different than

in the hyperscaler world.

Carly Davenport: Yeah, so I'll split it out into the regulated versus our independent power producers that we cover that are doing a lot of this. On the regulated side, there is significant capital required. We see capital investment for our regulated utilities coverage up 60% in the next five years versus the prior five-year period. But we're still seeing leverage ratios relative to what a credit downgrade kind of threshold would be. We're still seeing about 100 basis points of cushion there. And I think part of that is the companies have been proactive about issuing equity to help fund this growth. We would expect incremental capital to be funded about 30 to 50% with equity. And so, we think they've taken a proactive stance there to make sure that they're doing this in a balance sheet safe way.

George Lee: Fascinating.

Allison Nathan: So, let's just conclude by asking both of you, what are you watching to determine how this power thesis is really playing out and whether the constraints are winning or the demand side is winning?

Carly Davenport: I think one piece would be, if we can all agree that the public opinion and the regulatory uncertainty is probably the steepest hill to climb, it would be tracking how many of these data center moratoriums are we seeing pop up across different states. So, I don't mean a local community. A real, like a New York or what we've seen in Texas, type of moratorium that really could cause some potential project delays or uncertainty from a project developer perspective of, do I want to operate in this market? I think that would probably be the piece that we would be most focused on, especially as we're leading into the elections in November and potential changeover post that.

Brian Singer: Yeah, I would concur absolutely with that. I think there's probably going to be a little bit more nuance as to whether some of these moratoriums are really thoughtful. More of a thoughtful take of, here's what we need to do to actually stimulate and continue with this development. Not necessarily a shift away from being maybe pro-business or pro-development. Or is this something that is actually going to be a little bit longer lasting?

If I'm looking at metrics to watch, does this 2030 data center capacity get revised up or down from here? Call it the field of dreams data centers. The "if you build them, they will come." And should that be in people's forecasts or not in the industry?

And then if I'm looking for an off the beaten path metric to watch, it would be nuclear contracting by hyperscalers. Only because that's going to have very little effect over the next five years. And so, it's always a nice metric that we think is somewhat indicative of the long-term and whether they see this as something that they are really going to need the demand for. And in addition, from a sustainability lens, what their views are on carbon dioxide emissions mitigation.

Allison Nathan: Brian, Carly, thanks so much for joining us again. And I'm sure you'll be back here soon with another update given how fast this is all evolving.

Brian Singer: It's been a pleasure.

Carly Davenport: Thanks for the discussion.

Allison Nathan: George, what are your thoughts? You added a lot throughout the conversation, but key takeaways.

George Lee: Sure. First of all, fascinating discussion. And as a historical tech person, it's been really fun for me to try to understand this ecosystem as it directly impacts our growth. It just strikes me that both the AI and power industries need to both coordinate and refine messaging campaigns that lay out the positive case for these investments in communities. And Carly talked about there's a single state-level data center moratorium today. But there are more than 300 regional or local moratoria going on around the country. And that could really grow and inhibit all of what we've talked about here unless we do a better job of articulating the positive case for this infrastructure.

So, it's a real imperative for these industries to coordinate and deliver. It'll be fascinating to watch it play out.

Allison Nathan: Absolutely. But I, for one, took a little bit of comfort from the takeaway that we are not seeing tremendous constraints in terms of power demand. We're

not headed for outages, it seems, any time soon. So, that was comforting to some extent.

George Lee: You're right. And what a testament to the free enterprise system that from the standing start of five or six years ago we've gotten ourselves to a place where we can navigate these constraints. Really remarkable.

Allison Nathan: Always a pleasure to speak with you, George.

George Lee: Same.

Allison Nathan: This episode of Goldman Sachs Exchanges was recorded on Wednesday, August 12th, 2026. I'm Allison Nathan. Thanks for listening.

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Date of Recording: August 12, 2026

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