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Capacity Crunch Series Continued: Balancing Reliability, Unprecedented Load Growth & Affordability in the Energy Transition (Part 1)

Energy Law Insights

SPEAKERS

Josh Combs | Allison Pryor

Join Troutman Pepper attorneys Allison Pryor and Josh Combs as they explore how utilities, regulators, and stakeholders are working to balance unprecedented load growth, reliability, and affordability amidst the ongoing capacity crunch. The video highlights the importance of creative solutions, constructive collaboration, and strategic partnerships in a rapidly evolving ecosystem.

- Overview of capacity crunch and ongoing efforts to balance unprecedented load growth, reliability, and affordability
- Macro/micro drivers of unprecedented electric demand, including economic development, manufacturing facilities, data centers, and AI
- Creative and constructive collaboration required to meet unprecedented and unique energy needs of customers
- A flexible and balanced resource planning and selection process means regulators and utilities must balance reliability, affordability, and sustainability
- Existing regulatory frameworks and planning processes can facilitate the constructive collaboration and creative solutions
- Highlights importance of transmission and transmission infrastructure amidst the transition and capacity crunch
- Utility investments in emerging technologies and creative solutions and the role of local, state, and federal incentives in helping to facilitate innovation

The energy sector is currently undergoing seismic change and with that change comes tremendous opportunity. Our energy video series, which features nationally recognized Troutman Pepper partners as they discuss a vast array of unique and complex challenges that face the energy industry.

Transcript

Title: Capacity Crunch Series Continued: Balancing Reliability, Unprecedented Load Growth & Affordability in the Energy Transition (Part 1)
Speakers: Josh Combs and Allison Pryor

Josh Combs (00:07):

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Allison, we're gonna chat today. I look forward to our chat about the capacity crunch and talking about some of the issues that we already discuss on a daily basis and opportunities as well that we're seeing as utilities and stakeholders balance reliability, rapid load growth and demand and affordability amid the energy transition. So happy to see you today.

Allison Pryor (00:28):
Certainly. It's a really exciting time to be in the energy industry. A lot of change.

Josh Combs (00:33):
As we think about the folks that we work with and the other stakeholders, our firm obviously sees these challenges and opportunities come up in different ways. Obviously we represent public utilities and some of these issues impact regulators, legislators, but there's other participants. But what, just at a high level, what are you seeing in terms of the driving forces that are impacting those issues of reliability, load growth, and affordability currently?

Allison Pryor (01:00):
It's a combination of how energy users, customers of utilities, utilities themselves are all using, generating and demanding power in a different way that they haven't before. So whether that's really optimistic or realistic sustainability goals from a commercial customer or supporting AI and new changes in technology, that all demands more energy and different energy than what's been provided previously. So the fact that how we're using energy and what we're requiring of our providers has changed and it's just time for everybody in the industry to kind of accommodate and work together. And that's a great opportunity for a lot of our clients.

Josh Combs (01:46):
Yeah. And I think that some of the things that we've talked about in our offices on a daily basis is coming to the drawing board and coming with creative solutions and thinking outside the box from how many folks in the industry have approached challenges and opportunities in the past. So when we think about this rapid and new load growth and sharp increase in demand that we're seeing, there are clearly driving forces behind that load. Could you talk a little bit about the primary driving forces that we're seeing as influencing the demand growth?

Allison Pryor (02:19):
Sure. There's a lot of economic development that's driving these changes. Part of that's the way that consumers more broadly are using technology and the technology itself has advanced. So data centers, and also moving towards a cleaner electric fleet, moving towards electric vehicles — all of that requires new components to the economy more broadly. So manufacturing for batteries, manufacturing for electric vehicles, data centers for your standard technology uses, but also with AI and the fact that it's demanding more, for longer, for a greater period of time, using energy in a different way than we had before. While residential customers may not be the driving force, commercial industrial customers certainly are.

Josh Combs (03:10):
So when we talk about the energy use and the energy needs of the driving forces behind the demand increases that we're seeing, how does that kind of impact how our clients, other stakeholders, regulators, legislators — how they address and meet the needs of this demand that we're seeing out there?

Allison Pryor (03:28):

Utilities across the country have to be more creative and collaborative in how they're approaching solutions to some of the issues that have now presented themselves. So for example, integrating more thoughtfully generation resource planning with transmission planning with adequate forecasting for customer load to make sure not only that you know how much load is coming onto the system, but what their power needs are gonna be and when. Because for example, data centers and certain other industrial customers use energy at a different time of the day than your standard residential and commercial customer. They may be using it twenty-four seven, or they may be using it in different peak hours than what would historically be a utility's peak. So the creativity and the planning, but also the collaboration and orchestration internally is important. On the flip side, it's also demanding more collaboration among stakeholders.

You're seeing large commercial and industrial customers coming to utilities, coming before the regulators with solutions to the problems that the utilities are facing. So there are opportunities there, not only for the utilities to solve these issues, but also to look to the customers they're serving for solutions as well.

Josh Combs (04:46):
Yeah, I think those strategic partnerships that may have not previously existed are really gonna be a key part of how we maintain reliability, affordability, and address these needs in a way that allows us to continue advancing the transition, but to also ensure that we keep the lights on. And when we think about the mechanism through which utilities and other customers — the solutions for addressing these needs — what are some of the different ways in terms of selecting the resources to ensure reliability that you feel are gonna be important, or that we're already seeing in the industry?

Allison Pryor (05:23):
Sure. It's a balance between reliability and sustainability as well. There's just a broader movement in the energy field towards carbon-free resources. Many of those are reliable resources as well, but some of them are intermittent and the intermittency has to be balanced with energy storage systems or natural gas units in peaking hours. So it's creativity and open-mindedness — leaving flexibility in the opportunity to adjust a plan going forward, to not only commit now to resources that are gonna serve for 10, 20, 30, 40 years, but also adjust in the meantime. For example, CT or CC units that could potentially be converted to hydrogen later on would not only help fuel constraints from the natural gas side, but also be cleaner. But that technology isn't there yet. So there's the opportunity to move things forward, diversify, plan now, but also pivot later.

Josh Combs (06:24):
And even when you think about CTs, the CTs of today are gonna be more efficient, cleaner, and are definitely a part of that recipe. And you mentioned flexibility and some of the resources that would previously have been seen as costly — because of federal legislation and state legislation and other initiatives — have become more a part of the all-of-the-above strategy for addressing these issues. Traditionally, we've worked on integrated resource plans. That's still a mechanism through which utilities are addressing this, but there are differences that we're seeing with IRPs and RFPs. Can you talk a little bit about some of the differences in those traditional regulatory models that we're seeing in terms of addressing this demand?

Allison Pryor (07:11):
A lot of the clients we work with are in fully regulated environments and there are still opportunities even there to be creative and collaborative in a structured environment. There are opportunities to work within the existing

framework, whether that's through an official integrated resource plan or to broaden requests for proposals for a greater variety of resources — supply and demand side — whether that's targeted RFPs for very specific needs. One size doesn't fit all anymore. So each utility in each jurisdiction is looking at what are the needs of their customers, what is it that their system needs at that time and adjusting accordingly. Just because it works in one state doesn't mean it works in another one. And we're finding that utilities across the nation are not only looking within — they're also looking at what other people are doing as well.

So yes, while it may not work there, it could get the ideas started for solutions that they could make apply in the environments that they're working in.

Josh Combs (08:14):
One of the things that we talk about every day, and that's important to everyone in the industry, is our transmission issues and how we're gonna get this energy to where it needs to be, when it needs to be there. Talk about that a little bit and how that's an important challenge that everyone in the industry is facing and what we're seeing there.

Allison Pryor (08:34):
Yeah, the transmission infrastructure issue is top of mind, top of conversation, definitely one where federal regulation and state regulation kind of overlap. There's a lot of opportunities with upgrading the transmission system to accommodate the needed generation and load that's coming on the system. It's twofold. You need to be able to generate the power, deliver it, and then be able to actually use it. But to get it there, part of the biggest hurdle is the cost. One of the benefits and opportunities that some of the increase in load has created is a new source of funding, to be honest. When you think of traditional transmission costs that are assessed to a cost causer and a generator, well, now those might need to be assessed to a customer. And there may be customers who are willing to pay that to make sure that they can get the energy they need.

They may be willing to take on that cost. So when we think about transmission and the hurdle it creates, a lot of it may be a cost problem. The exact same people in the market who are creating the problem — which is not a problem — are actually solving it too.

Josh Combs (09:47):
So Allison, does the lack of transmission infrastructure impact interconnection? Does it impact the ability for generators to make it through the interconnection process?

Allison Pryor (09:58):
Absolutely. There are so many generators in the interconnection queue across the country, whether that's renewable projects, battery projects, wind projects, solar. There are so many available generators that are out there to supply the energy needs of the country, but also accelerate the transition away from coal to carbon-free energy. The lack of transmission is a huge impact on that. It's not only delaying these projects because the transmission upgrades have to be installed before the projects can come online — it's also creating a cost problem. So it's twofold. It's both timing and cost prohibitive to getting successful mature projects through the interconnection queue. So Josh, as utilities across the country are moving towards more carbon-free resources, what are the different technologies that utilities are taking bets on will be the best replacement for carbon-intensive resources?

Josh Combs (10:58):
Yeah, I think that we talked earlier about one shoe not fitting all, and I think we are seeing utilities take different approaches to try and address unique reliability needs or specific reliability needs that are relevant to the various jurisdictions in which they operate. For example, some utilities have been early adopters of battery energy storage and are now able to further invest in it and do long duration storage. And bets on storage obviously allow the flexibility that you talked about earlier of being able to use a resource when and how you need it. Obviously, there are state and federal incentives that have helped with a utility's ability to, for instance, start digging into long duration storage. That's one example of storage pilots and now moving to the next phase of storage.

And I think there are other areas, whether it's certain innovations around nuclear energy and small nuclear reactors that we're seeing utilities really dig into — how can that be used as a tool in their toolbox to address reliability issues. So those are just two examples — storage and nuclear — of resources that companies are looking at, how they can be innovative and creative with those resources to provide flexibility and ensure reliability for customers.

Allison Pryor (12:24):
Wouldn't you agree that there's a role for the state and federal government to play in supporting the industries and the technology diversity of both of those things moving forward?

Josh Combs (12:38):
Absolutely. When you think about something being cost prohibitive, some of the federal legislation that has been passed — the ITCs, the PTCs, and other credits and incentives — have really allowed and facilitated that innovation and creativity that you're talking about. I think that applies also to hydrogen, which is another example of a technology that federal legislation has really helped support. Even here in Georgia, we obviously have nuclear as a resource. And cost can sometimes be something that folks see as a challenge for developing such a great carbon-free resource like that. But that is something that's being praised and that some folks are exploring. And I think that through state and federal efforts, we can continue seeing that innovation that will help with cost, help with flexibility, and ensure reliability.

Allison Pryor (13:29):
Yeah. And it's not just innovation or maturing of the technology. It's also just the momentum — having supported the restart of an entire industry that was dormant for decades. It's a fantastic opportunity. You've restarted an entire industry. You have a labor force, you have manufacturing and suppliers, you have supply chain networks. You have an entire industry that is ready and able to move forward based off of the tremendous work they've done at Plant Vogtle.

Josh Combs (14:01):
And I would be remiss if I didn't mention this as a Kentuckian — and something that I've seen when you talk about state and federal efforts — some of those efforts have also helped to ensure that the existing infrastructure and existing workforce from communities that were legacy generation has been built, and communities have been built around and dependent upon that legacy generation. Through some of these credits and other incentives, utilities and other developers are able to go to these areas and now create those new combined cycles that are more efficient and cleaner, or storage projects in energy communities that already have that infrastructure and workforce that are now looking to transition as well.

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Allison Pryor (14:43):
Yeah, and they're appropriately incentivized to do that, whether through the federal government by including a 10% adder in the IRA and a tax credit for siting in an energy community. But utilities on their own are also leaning into that. There is existing infrastructure at previous coal plants that have since been retired — infrastructure that can be leveraged and taken advantage of to the benefit of new technologies and projects going forward.

Josh Combs (15:10):
I know that this is a conversation that we will continue. Obviously, it's top of mind for our clients and for us every day as we balance all of the issues — affordability, reliability — amid this transition. So as always, I've enjoyed talking to you.

Allison Pryor (15:26):
Appreciate the opportunity.

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