

An Interview with
ALLEN GLECKNER

Conducted by Marta Monti
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Marta: Today is June 16, 2015. My name is Marta Monti, and I will be interviewing Allen Gleckner. Why don't we start with you telling me about what you do here at Fresh Energy?

Allen: Yeah, so I'm in our electricity markets group, which handles anything to do with utilities and generation, delivery of electricity. So, translated, that's our renewables and energy efficiency work, the grid, and everything that touches that. The other areas would be more like building efficiency and transportation. I've worked on everything from utility scale projects and policy to the more distributed, distributed solar has been particularly active in the past year, so that's been a big piece of it. We're starting to work more and think more about the distribution system. That's becoming more of a big deal as the whole sector changes. And then, on the bulk electric, transmission system, I have worked here on the Badger-Coulee line, which is an MVP (Multi-Value Project) line in Wisconsin. I've worked on that Certificate of Need at the WI PSC (Wisconsin Public Service Commission). So when it says permitting and routing on the website, that's what it's talking about. In that work we've worked with Wind on the Wires (WOW), and our role is kinda to coordinate with in-state WI groups and other clean energy advocates, all who have kinda come at it from a different angle. But, to provide materials and media help with messaging that not all transmission is created equal, and in fact that transmission line is intended to benefit clean energy and increase clean energy on our electric system.

And it gets much more nuanced than that, in that on that specific line you had very much people who would normally be with us, like supporters of clean energy and all that--they are very much opposed to that line, in addition to the traditional NIMBY (Not In My Backyard) folks.

Marta: Who are some of the people who you'd normally have on your side who aren't for this one?

Allen: A major opposition group called SOUL (Save our unique lands) out of the area. I think there is a NIMBY faction there, a NIMBY drive to that opposition. I think maybe a lot of folks are thinking, "Wait, I don't want a transmission line going through here." and they found that group and latched on to those arguments. Then they started saying "Not only do we not want this here, but why do we need it in the first place?" So, they were really pushing arguments about how we should use distributed generation and energy efficiency instead, and we're not seeing enough growth to support this line. Which is, all things we support, so it became very nuanced on that end.

On the other end you have the WI PSC that doesn't really care about renewables, so that's the ultimate decision maker. There you're talking about benefits and lower electricity costs from wind that's driving down wholesale prices. Access to the regional market is just going to drive down wholesale prices.

So, helping with that media and messaging and getting kind of on the ground groups that might not be as technical or knowledgeable on some of those issues. And then packaging it for the public...going to public hearings, testifying. We all intervened in the case with Minnesota Center for Environmental Advocacy representing us, and WOW and AWEA (American Wind Energy Association) providing a lot of the technical testimony. So, it ran the gamut from there.

A lot of it is answering questions like “Well, how do I know this line isn’t just going to bring more coal? You say it’s going to be more wind, but how do I know it’s not more coal?” “Why is transmission necessary if we can all just put solar panels on our roof?” That’s kind of the main part of that, but a lot of it’s organizing too.

So I worked on that, and we only have one more of those...Cardinal-Hickory Creek from Dubuque to Madison is kinda the last MVP line in the Upper Midwest that needs a Certificate of Need. And then our focus is going to shift to the other part of transmission work, which is working on MISO (Midcontinent Independent System Operator) on planning and markets. But, I’ve done more on the planning side to try and get another batch of clean energy lines approved. So, after this next one will be permitted, that whole set of MVPs for the most part will be permitted...there is still some clean line stuff. But, then it’s really, how do we get MISO and that stakeholder process to identify more transmission that will allow us to build a lot more wind, and hopefully integrate higher concentration of distributed stuff too.

Marta: Ok, I haven’t gotten a chance to speak with people from MISO yet, but I’m curious. You said that once this round of MVPs is done they will start again.

Allen: We hope. Well, MISO every year is planning new transmission. That’s mostly driven by utility proposals for reliability reasons. There’s a few different ways for new transmission projects to bubble up, but I’d say a majority is reliability-driven projects. The MVPs were driven by a need to comply with the state renewable energy standards, but they also had to improve reliability and be economic, and so all 17 of those lines met those 3 categories. It helps wind get delivered to the market, it improved reliability, and is cost effective overall. So that’s what we’d want to see again, but that x-factor of meeting the state renewable energy standards...either the state or MISO stakeholder group would have to say that the MVPs have all been developed, and we need more compliance to meet renewable energy standards, so we’re gonna need another package of lines, and run a study to see which ones help reliability and meet all those factors. So that kinda has to be pushed--the public policy side need driver, but I think a lot of people, and I would agree, except that if it’s done right, implementation wise, the Clean Power Plan will probably be the next driver for some clean energy transmission. Hopefully because it’s driving the need for more renewables, and if that’s the case we’re gonna probably need more transmission, and so MISO is more or less required under federal law to plan for that stuff.

Marta: Do you think as a region we aren't done building out our grid yet?

Allen: Well, definitely not, and certainly not if we want to reach high penetrations of renewables.

Marta: I saw on the Fresh Energy website that one of the initiatives is to increase our renewable energy standard for the state. So, talk about that. All these things are pushing the other, so you're kind of hitting them on all fronts, right?

Allen: Yes, certainly that's what we'd like to be doing. We supported a legislative initiative the last two sessions to increase the state's renewable energy standard to 40% by 2030. Right now, depending on how you crunch the numbers, about 27 ½% by 2025. So, it's really a modest increase and pretty far out. But, as part of that there was a study done by a lot of utilities with input from MISO headed up by the Department of Commerce looking at if it is technically feasible to get to 40% by 2030, and if so what infrastructure is needed? And they did that study, and depending on what's in-state and what's out, whatever they found, it is technically feasible and it requires a pretty modest infrastructure upgrade. So, to get to 40% in-state, we wouldn't need a ton more transmission--just more upgrades here and there, targeted upgrades.

But that was with an assumption of kind of surrounding states not increasing their current...I forget what it was, but it wasn't regionally at 40%. So, once we're talking about regionally getting up to 40%.....we're also a member of REAMP, which has a goal of 80% renewables by 2050. To get to that, region wide, we definitely would need a lot more transmission. Unless, some kind of incredible silver bullet technological breakthrough, which is always possible, but I don't think one can count on that.

Marta: Right. Even if the technology does come, how quickly can you get it in place?

Allen: And people often point to batteries and storage in that sense, but I think from what I can tell, experts tend to think it's much more likely that even if once batteries scale and storage gets cost effective, it will increase the ease of technical feasibility of interconnecting large percentages of renewables. It will really help decarbonize the system, but it's not most likely to be the scenario where people are saying that batteries are so cheap that everyone just has a solar panel and a battery and that's our electric system. That's possible, maybe, but that doesn't seem to be the likelihood. I think people expect batteries and storage to get cost effective, but that's going to be system integrated, which will be good for our system and good for renewables and good for carbon reduction, but not be all end all.

Marta: Yeah, it's going to be a mix of everything. So how does distributed generation fit in? One could make the argument that it goes against planning for more transmission. It's clear that we need both and we need all, and maybe this is more of a technical question, but when you factor in distributed generation on the grid as a whole, it kind of screws with the modeling. Is there any pushback?

Allen: There's tension on the planning side. Traditionally, when everything is controlled by the utility or central decision maker about what generation you're going to have, it's probably easier to plan when you're system when you have distributed generation driven by customers who want to produce their own energy. That sort of takes that control away from a central decision maker and introduce it to market and industry forces, so that's a little bit harder to plan to. But I don't think that it's something that can't be adapted to, and you can run sensitivities in your modeling to model different penetrations, and then it's just like any other modeling. You run sensitivities and you can see is this transmission line no-regrets? Is it cost beneficial up to 5% 10% penetration? That kinda thing

So that's on the planning side, there's definitely tension, but I think it's something that can be adapted to if there's a will to do it. But we also hear the argument from some of those opponents of transmission...that we don't need this, that transmission is for big central generation....distributed generation is the future and we don't need transmission. Well, if you want to get anywhere significant like 50% or higher penetrations on your system, all the modeling shows that you need regional interconnection through your grid. And the only way to get a regionally interconnected grid is through transmission.

The most aggressive modeling I've seen for a 2050 timeframe of high penetration of renewables of rooftop solar is maybe 30% of our energy is coming from there, and that's really high. That's a crapload of distributed generation. Even assuming that, you're going to need a lot of large scale wind, a lot of large scale solar. And even beyond that, the technical challenge of integrating that high level of a variable resource....storage could help with this, but that regional interconnection to leverage the geography of the region...as we're interconnecting over a more vast area, you're going to be able to forecast better for where the resource is going to be. It's less correlated that if a bunch of it goes down at the same time, the bigger geography you have, the more you can pull on resources from different areas and share those reserve margins. It really just increases the flexibility of the system, and with a bunch of variable resources and variable load, flexibility is what matches those. The more you're working in a bigger area with more interconnection ties, you're more flexible. So you can leverage both the bigger area of resources and be more flexible. I think even with a lot of distributed generation, we're going to need to do that.

Now, batteries and storage could change that dynamic a little bit by smoothing out some of those local variations, but at this stage, at such low penetrations that we are at with renewables, I think

we will continue to build out targeted clean energy transmission is going to be no-regrets for a while. Once we're up to 50% we'll start to ask ourselves if we need more, and if we can this with storage or other technical stuff, but we have a long way to go before you can make the argument that we don't need more transmission. Especially because the whole system is built from the legacy system of centralized fossil fuels or nukes going to cities. Even if you wanna say "oh we have all that system right now and we can just repurpose it." Well, it's all designed for one way, generation to load. A new system has got to be interconnected and flexible...one, to these resources that are far away right now and not connected, and two, strategically interconnecting it to make it all work better for the single purpose of integrating high levels of variable generation rather than one-way flows. So, it's a combination of all those things that I think are going to require a need for that stuff for a long time.

Marta: Do you know much about how these lines are helping wind curtailment?

Allen: the experts who have dug into that data....Specifically with Badger-Coulee, that MVP 5 line, it showed immediate lessening of curtailment, or fewer hours of curtailment, as soon as that line goes on...because of congestion. If you look at a MISO congestion heat map, you can see right in western Wisconsin there's a big red or yellow spot just bottlenecking right there. That's a big factor. It's not only to build new renewable resources, but to lessen curtailment, which is just throwing free energy out the window.

I think the analysis showed too, looking at the interconnection cue and signed PPA's (Power Purchase Agreements) and things like that, that all kind of count on Badger-Coulee because it was approved, and if you take that out of service, I think a couple gigawatts of wind would be off the table. There is a pretty direct tie to those lines being built and more large scale wind.

Marta: I'm kind of curious about the bottlenecks. It seems like they start in Wisconsin. Do you know if/how the CapX lines help with that?

Allen: I don't know for sure, I have to assume they do, because that's where they are increasing connectivity...right in that zone.

Marta: Yeah, Badger-Coulee picks up right where the Hampton-Rochester-La Crosse line ends.

Allen: Yeah, and Badger-Coulee will connect there and run to Madison...the other MVP 5 comes up to Madison, a bunch of other interconnections there. Yeah, it's all kind of designed to let all that stuff from Minnesota and the Dakota's, Iowa...that excellent resource. It's not all "let's move this resource to PJM" or move it east to Chicago....that's a common talking point. It's that that's the natural flow, and it's gonna get jammed up there. Once it's in there, it's in the regional grid....it's not a one-way DC line. That's the general nature of the flows, and that's the way it's

going to enter the system and the market, but that doesn't mean that it's only going to be used in Chicago.

Marta: Is that one of the things that comes up when you're dealing with the public? That the lines will be built here, but benefit others?

Allen: Yeah, big time. Especially in Badger-Coulee in Wisconsin because they don't have wind development for a few different reasons. But, it was a pretty easy talking point for them to say "oh, this is just for wind in Minnesota and the Dakotas (or coal, if they were being cynical), and you're just going to move it down to Chicago. We're not going to build wind here, so what's our benefit?"

Marta: So how you do explain it in a non-technical way that convinces people to accept?

Allen: I hope they understand. I think the messaging is that we all are served by a regional grid, and putting more renewables on that grid is good. And we have some good data from Minnesota that shows that as wind is ramped up, coal is ramped down. They are both energy resources as opposed to capacity resources, and you can assume that any non-curtailed wind that's going on the system, since it's the cheapest thing on the market, is going to displace some fossil fuels. So the cleaner our regional grid is, the higher renewables are in the mix, the more clean our system is for everyone. That's true for users in Wisconsin, whether or not...it's a shame that they aren't getting more wind development in that state. Part of its resource, the other part is the political environment in that state. But, serving everyone that uses the regional grid. That's maybe not super compelling to them. The opponents might say that that would rather to rooftop solar on her house, and we say "yeah, you should do both" And that line in particular is an MVP line, and because that is something that is providing regional benefit, the costs are shared by the region too. We pointed that out too, that Wisconsin is only paying 15% of the cost of that line.

Marta: Let's keep talking about WI, my home state, and about getting a Certificate of Need (CON), and what you do to help get that. I know the WI application is one big application, and the MN one is broken up into CON and route.

Allen: We intervened in the proceeding, officially with WOW and the Izaak Walton League, and MN Center for Environmental Advocacy represented us in that. So you have the developer, ATC with is the utility developing the project, as the applicant providing most of the materials of why this is needed, the background, background on the MISO process. MISO also intervened as to why through their planning, they showed a need and a benefit from this line. Because it was explicitly planned to meet renewable energy standards at MISO, and there's a lot of data to back that up, the utility includes that in their application, but our role is to highlight the clean energy, particularly wind benefits, of the line. To really flesh that out and highlight them. We provided

expert testimony about curtailment, how much reduction in curtailment would come from that, and the benefit to the market. How much wind development was reliant on the line? Some of the background about how the line was planned to benefit wind specifically. A lot of those things, narrowly focused on that. That included rebutting some of the arguments that were coming against the line from a clean energy perspective, since we have a lot of expertise there. And to give the Commission more comfort in approving the line, saying maybe there are some self-proclaimed environmental groups opposing the lines for various reasons, but just so you know, there are some other clean energy advocates that think this line is a good thing.

So it's not just the classic utility, NIMBY, and maybe this new element of environmental groups opposing. It's clean energy advocates for it. The idea is to give them more comfort that this is a good decision to approve the line.

Marta: So, we've got groups like No CapX, and the NIMBY's. But what about groups like the Sierra Club, or NRDC (Natural Resources Defense Council). I know those come up, and correct me if I'm wrong....on one side you both have the same goals, but sometimes Sierra club will go completely to the other side and say that we don't want anything new built.

Allen: Sierra Club, in particular because of their structure, it's a little complicated. I know from talking with some of the staff that it's a really hard issue for them. The way they are structured is that they have local chapters, and statewide policy staff, and national staff. So, there is a little bit of tension with the beyond coal campaign, or more sophisticated national or state staff that understand the need for some transmission as necessary for the clean energy future that they all want, but then maybe a local chapter that is a little less sophisticated on energy issues, and is used to fighting big infrastructure...and also, that's a natural resources AND energy group, and they see the natural resources impacts, it sucks that a transmission line is going through their corner of the world, so you can see how it is easy for them to come out in opposition to it....kinda talk themselves into thinking it's not needed.

And that's what happened in WI. There were chapters of Sierra Club publically opposing the line. I think the statewide office was neutral on it for that reason, but I do think that organization understands the need for clean energy transmission, but it's because of the chapter structure, it's difficult for them to push on it.

A goal of ours is to filter out from the grasstops to the grassroots a little bit more information about the subject, and educate people. You can form your own opinion about whether or not this transmission line is needed, but here are some things to look at. It's not as simple as transmission is bad for clean energy, because we would argue that it's the exact opposite scenario.

Other organizations, NDRC is not opposed to any of these projects as far as I know. Environmental Law and Policy Center is more skeptical of the projects. They generally support the MVP projects, but in Wisconsin had some questions more about what demand forecasts were used than any large scale questions saying that large scale clean energy doesn't exist. More about issues they had with the way the line was modeled and planned and assumptions that went into it, so a real narrow kind of concern.

Marta: And that's where you worked before you came to Fresh Energy. At least in the beginning of the CapX project in the early 2000's is that the projections for need was going to grow, and we really needed this. But as we've gone along we've seen the demand growth slow a bit. I don't know if it's that people are just changing the way they speak about it. In the beginning the story was that we have this need that we need to meet, reliability is the biggest thing. And now, it's more like, well, reliability is one part of it, but we're also getting renewables on and helping retire plants. How do you see the conversation shifting, and is that okay?

Allen: Situations change. It's a little hard looking backwards to see how demand changed, and now what's the value of this project, because it's already going in. Part of the way of doing good planning is to run different scenarios. We have been pushing MISO to include in their different scenarios when they look at transmission...like, if we build this line, what happens to the system, how much do we save, how much does it cost...all that stuff...to include scenarios of flat demand in there. We are seeing flat demand in some areas, some states, so we might as well bookend that demand idea, so that question doesn't come up--or it can come up, and then you can say that we've looked at that scenario, and it still provides these benefits. That's more an element to no-regrets planning, and something we'd like to see MISO do more of.

But, it's not a bad thing. We want to see more energy efficiency, and that's a good way to help get to a cleaner system. I don't think it lessens the need for certain transmission, it just changes what's needed rather than just having the system planned and built for ever increasing demand, it can be built more for optimizing for certain things. And those certain things from our perspective is more renewables on the system.

It's a hard issue, and a moot issue frankly at this point for lines that are already through the process. Backward looking...that might change the economics, and unfortunately things are maybe less of a cost-benefit than they would have otherwise been, but we do know that they are going to provide clean energy benefits. Those aren't going away. Those are probably undervalued anyway. So, to me, it's moot and it probably nets out in an overall benefit anyways because we undervalue the carbon that it's saving. Going forward there are solutions....better modeling, better assumptions.

Marta: What I've learned is that the modeling and the forecasts have been doing a better job of factoring in wind and renewables.

Allen: They are getting a lot better at integrating it in operations, but I don't think the planning has caught up. The planning is conservative. We try to push with more updates cost data, because a lot of the modeling picks low-cost resources, but uses really out-dates capital costs for wind and solar. So, pushing on that part of the planning analysis. Pretty conservative about looking at future scenarios that include an expansive growth in renewables. Even though we're seeing new forces in the market lead to exponential growth, or we've seen exponential growth in the past that wasn't planned for, and we're still not successful at getting scenarios that look at an aggressive growth scenario for those. It would make sense to me to see both scenarios with flat demand just to see what happens, because maybe we won't see dead flat, but really low demand, because we're seeing that now, so why not see what it looks like if that continues and then see what an aggressive renewable growth scenario looks like. That's not happening at MISO right now...

Marta: Let's talk about MISO for the last few minutes that we've got here. What sorts of things is MISO doing aside from the MVP lines that you see as positive for renewables, and what sorts of things could they be doing?

Allen: I can talk more about things that could be better there. MISO is interesting because it is an independent entity, but it's made up of its members, and members can really go to any RTO (Regional Transmission Organization), so they have independence, but they aren't a fully independent entity. They still have to be very aware and attentive to their member's interests. They are a membership organization, and their members are mostly made up of incumbent utilities around the region.

Things that could be better...I talked about some of those planning things. Another thing that is sort of a problem with transmission planning nation-wide is how non-transmission alternatives are looked at. We are proponents of clean energy transmission, but at the same time, we want those to be the most needed projects, and focused on the best, most optimal scenarios, and you lose some of them when you don't factor in non-transmission alternatives into that planning. If someone proposes a line from here to here, even if it's a wind line, potentially maybe if you target some distributed generation at a high load area or high congestion area, implement demand response, as we're getting more storage. Those types of things. Maybe we'd want to place it to a different part of the wind resource area, or maybe interconnect it somewhere else. Particularly for non-clean energy transmission, like certain reliability projects, we should be looking more at if it is more cost effective to use these other options with the side benefit that if they are cheaper and they are clean energy, then we don't have to build expensive transmission that we don't need. Right now there are a few different wonky reasons why it's not being fully

looked at on a level playing field with the transmission proposals, but that's something that definitely needs to be improved there, and probably in all RTO's and all planning.

Another thing on the market side--MISO does transmission planning and runs the wholesale market--as the system is changing on the market side, really seeing a marketplace and a value and fair compensation in that market for these new things....this isn't any sort of blame, it's just adjusting to the new system. Like frequency regulations, voltage control from a lot of these new resources, aggregation of distributed resources to go into the market, demand response....this whole suite of new technologies that do provide value to a system if you provide a market and allow those things to go in there, you'll see more of them. You'll bring system costs down, make a cleaners system, a more efficient system. So, there's a lot of opportunity in the wholesale market to value and compensate those things, which will just drive more of them in and drive costs down.

Marta: How do you as Fresh Energy get that message to MISO?

Allen: It's an open stakeholder process, where members of the environmental sector, which is a number of groups, and there are lots and lots of stakeholder meetings throughout the organization, and it's just a slow, methodical process. It's a lot of time talking to other stakeholders, participating in the meetings, and getting the same message across. Really good data is important to back up positions. It's just a very slow, arduous process working through the MISO stakeholder process. Some of those things can really be moved along fast if you get states and state legislatures or state commissions saying we want this, then MISO will do it. They can execute on things they are asked to do very well, so that's one way to push it. There are some other things like the non-transmission alternatives can really be driven more from the federal level, nation-wide. You can push it in MISO, but it's a slow process that takes a lot of resources and time. But then, can also push from the state policy level, and then even some federal FERC stuff.

Marta: How realistic is it for FERC (Federal Energy Regulatory Commission) to give an order on non-transmission alternatives?

Allen: Well, it's been in their orders, most recently order 1000. I think the problem there was that they didn't quite go far enough. Basically they said you have to consider non-transmission alternatives in planning, but they left it open to the developer or MISO in this case, doesn't have to go and figure out non-transmission alternatives. If someone else brings it to the table it has to be considered. And then the flipside of that, in transmission a lot of the different projects are paid for on the regional basis, at least cost is spread a little bit. FERC hasn't taken that next step to say, ok, we're gonna build this line that will cost \$300 million dollars and the cost is going to be shared across these 2 states. If we did demand response it would only cost \$100 million....but,

there's no mechanism to share that cost across the same areas. So one utility would be stuck with that \$100 million. Even if it's a \$200 million savings for everyone, if it's not cost allocated in the right way, that one actor who makes the decision isn't going to offer it. Cost allocation and who's going to offer these things.....

It's possible because it came from FERC, and they've already said you have to consider them. It's just a matter of taking those next steps. How likely it is, I don't know.

Marta: It seems like FERC 1000 is a good starting place, but critics say that it doesn't go far enough. Can they revise orders? Or would they have to make a new one?

Allen: I think it would have to be a new one. I think the order 1000 process is pretty much over. I think as long as FERC has jurisdiction, they can just make a new order.

An interesting question to me about FERC, because I don't know the political and inter-commission dynamics, but the jurisdictional questions like you see in order 745 and that supreme court case...the whole separation of retail and wholesale jurisdiction that is in the federal power act. I think an interesting question is can congress take the Federal Power Act one step further and give FERC jurisdiction....if you say demand response is retail, can Congress give them that jurisdiction?

Marta: Is there something that I should have asked you about but didn't?

Allen: No, I can't think of anything.