

Rachel Johnson, Cherryland Electric Cooperative ([00:15](#)):

Welcome to co-op energy talk. I'm Rachel Johnson, the member relations manager here at cherry land electric cooperative. And we've talked a lot about power supply on this podcast in the past, but just to remind our listeners for every single dollar that a cherry land member pays on their bill, 70 cents of that goes directly toward power supply. So it is a significant amount of our cost and also a, a, a significant portion of our members' bill. And so what we wanted to talk about today is what we're seeing in the power supply markets and how that's impacting our cost. And then by extension our members, this is the first of a two part podcast series. So in this podcast right now, we're gonna be talking about the energy market, more specifically, the mid continent, independent system operator, or myo market that we operate in. Talk about the history of that market, how it evolved, what it looks like today, what that means for pricing and what we see going forward. Joining me today for that discussion and to offer his expertise on this subject is Zach Anderson. Zach is Wolverine power supplies, vice president and CFO. So Zach and I are gonna discuss the markets. Please listen in and certainly make sure to check out the second part of this podcast series, where we'll talk a little bit more detail about Wolverine's power supply portfolio.

Rachel Johnson, Cherryland Electric Cooperative ([01:32](#)):

Zach, thank you so much for taking the time to join us today, to talk about one of our favorite subjects. Right? Right. <laugh> I mean, if it's not energy, I don't wanna talk about it. And in particular, what I want to kind of focus on in this, this first part of this podcast is the energy markets kind of the history of how they evolved and where, where they are today and what it means for our members. So can, can you kind of start us out with that, like dig us into some of the history and give our listeners a kind of an understanding of the markets.

Zach Anderson, Wolverine Power ([02:00](#)):

Yeah. Yeah. So that's a, there's a lot there, right? Which is makes it fun to talk about because there's a lot of different ways we could go and I appreciate the opportunity to share this. So the first place I'll start is at the highest level. When we think about there are four main components that go into the member's bill, there's an energy component. There's a capacity component, which is centered around reliability. Do we have enough resources to keep the lights on? And I know you've been spending a lot of time talking about that aspect of it. Then there's the delivery component, the transmission so long, uh, long range service from central generation to load. You've got transmission. You've gotta pay for that. You have to invest in that to be able to connect, uh, generator to load and then distribution. That's a, that's another key component to take it from think of the interstate highway onto the offramp and then deliver it to the homes and businesses that our member cooperative serve like cherry land. So those are the four components, energy capacity transmission, and then distribution.

Rachel Johnson, Cherryland Electric Cooperative ([03:01](#)):

Can I real quick just say, and for our members out there listening, I think an important thing to understand about the, the nature of our relationship with Wolverine, the kind of the first three parts of that you guys handle, and then you deliver it to us at the offramp of the highway. Correct. And that in general cost us about 70 cents on every dollar. And then that last part, that last 30 cents is for us, the cost to get it from the highway to the driveway is maybe a good way to think through that. And it all works together seamlessly. And for our members, they pay, you know, just with a set amount on the bill at the end of the month. Uh, but those four components are all in there with you guys doing the piece that you specialize in and us doing the piece that we specialize in to have it be as efficient as possible.

Zach Anderson, Wolverine Power ([03:39](#)):

Exactly. And to do it in a cost based way. Mm-hmm, <affirmative>, that's our goal as cooperatives. We're not in it for profit, as you've talked about over and over again on this podcast, we're in it to deliver at the lowest possible cost and to do it at cost. So whatever it takes us to go through those four components, that's ultimately what you end up paying in your final rate. And so for today's podcast, we're going to focus on one key aspect, which is the single largest individual component of any bill is the energy itself. So when we talk about energy, there is a market for energy, and I'll get into the history of how we arrived at a market for energy. But first I'll talk about a little bit about where, or really what that does. What does it mean to have an energy market and how does that happen?

Zach Anderson, Wolverine Power ([04:24](#)):

I think anybody that's taken economics 101, 1 of the first things you learn is the price of any product is when supply perfectly matches demand. And the energy market is no different. It's a little bit more complex in that that energy supply must meet the demand, literally every second and actually within cycles of seconds, mm-hmm <affirmative> every day, twenty four, seven, three hundred and sixty five days of the year, the markets are trying to match that moment's demand. So how much every home business, everything that uses electric energy needs with supply. And so what sets the price is the next generator that is needed the supply side, the next generator that is needed to meet that moment's demand. That's how we determine the energy price when supply meets demand. And this is what our team at Wolverine. We have a whole department set up that operates in the market every single day. And you can go online. You can go to Mico energy, uh, dot org, and you can see the five minute energy price right now. It's probably \$150 per megawatt hour.

Rachel Johnson, Cherryland Electric Cooperative ([05:33](#)):

I think it's kind of amazing that you know that off the top of your head. Can I, can I just say that right now? Well, it that's your job <laugh> yeah. That's,

Zach Anderson, Wolverine Power ([05:39](#)):

That's my job. That's what we do every single day, but, and I'll explain really what that means to the, to the member as we go through this. But I want people to understand at the highest level it's economics 101 when supply meets demand that determines the price, it set every five minutes every single day throughout the entire year.

Rachel Johnson, Cherryland Electric Cooperative ([06:00](#)):

So before we kind of talk through that piece, can you just really briefly explain, you said, you mentioned myo, we've talked about myo a lot on the podcast, but it's complex. So can you just give me a, a two minute primer on who they are and why they matter when you, when we're thinking about our members?

Zach Anderson, Wolverine Power ([06:16](#)):

Yeah. So let me, let me step back to where really they came from. They being the mid continent, independent system operator. There's another, uh, these are called regional transmission organizations. There's another one in Michigan that we've talked a little bit about or in the past is PJM, which was formed as Pennsylvania Jersey, Maryland. Well, Michigan's a long way from Pennsylvania Jersey or Maryland, but the idea is, if you think about a, a map, everything from the Dakotas, all the way out to the Atlantic ocean is in one large interconnected transmission grid. So

Rachel Johnson, Cherryland Electric Cooperative (06:58):

Meaning physically all of those things are connected to one another. They're

Zach Anderson, Wolverine Power (07:01):

Physically connected. Think about, again, I'll bring this back. When I talk about transmission, or we think about regional power grids, think about it like the interstate highway system. I, 75, I, 94, 70 fives running north, south I, 90 fours running east to west, it's connecting multiple states. The transmission system's no different. The only difference in the transmission system is there are really three grids in this country. There's the Eastern interconnection, which Michigan is a part of there's the Western interconnection. That's really Wyoming to the Pacific ocean. And then there's as all things in this country, the great state of Texas, which it's its own thing. So,

Rachel Johnson, Cherryland Electric Cooperative (07:42):

And we can't unpack that today. We can't

Zach Anderson, Wolverine Power (07:44):

Unpack that today, but I will bring it up later in a future point. But to bring it back to how did we arrive at this? There was this really call it dorky thing. <laugh> and policy people, people in our industry, they, they think like this, we think like dorks, I'm a dork, right? So they got really excited at the federal energy regulatory commission in 1996, about this specific order that they called the mega Noer talk about a dorky term. I was

Rachel Johnson, Cherryland Electric Cooperative (08:14):

Gonna say, Hmm. And also you'll also hear us refer to them as fur that's the acronym. So Fe is, is the fed federal, federal

Zach Anderson, Wolverine Power (08:20):

Energy regulatory commission. Okay. So they're overseeing interstate highways across the whole country and how power really flows. And in this particular instance with what was called fur order 8, 8, 8, 3 eights, they set about creating an open and more competitive market. Because if we go pre 1996 and for energy nerds out there, Enron was really a big driver to this. There was a push toward creating more competition in the, the market allowing generators to deliver, to load. And prior to this mega, this big, um, order from fi every primarily investor owned utility, they owned their generators. They owned the transmission lines, they owned the distribution. They owned everything between their central office and the end consumer, those four things we talked about in the beginning. And if anyone needed to move power and co-ops, as we are rural service providers often needed to move power across these systems.

Zach Anderson, Wolverine Power (09:28):

They had to pay whatever rate the utility decided. So think of it like you are driving to Ohio. Nobody actually wants to drive to Ohio, but in the off chance that you have to, you're driving into Ohio. And so Ohio decides, well, we'll charge the citizens of Ohio X price to drive on our highways. But citizens that are coming in from out of state have to pay Y price. Mm-hmm <affirmative>, that's a lot like how the power grid worked. If you wanted to cross one transmission provider, they used the term rate. Paning essentially, it meant you paid one toll to the next toll, to the next toll, to finally deliver that energy. So if

you didn't own a generator, a transmission line, and then the distribution system to deliver it, you were paying higher prices. So more generators wanted to interconnect that were known as independence.

Zach Anderson, Wolverine Power ([10:18](#)):

And so they wanted to compete to serve load at the lowest cost. So to bring this back to what the ultimate end goal of F order 88 was, was to remove those impediments and to deliver lower cost energy, and people can feel however they want about federal programs and the success of government. This was a very successful thing because quite literally in the 25 plus years, now that we've had for quarter 88 across the country rate payers have saved billions and billions of dollars because it's made the electrical grid more efficient. The system's been more efficient. And for us in our members, it's been at least hundreds of millions of dollars. I don't have the exact, but I, I can point to some specific numbers where it's hundreds of millions of dollars that Wolverine members have saved because of F order 88. It's a big, big deal.

Rachel Johnson, Cherryland Electric Cooperative ([11:12](#)):

So let me, um, lemme make sure that I'm capturing all this because it's really fascinating history. Like what I'm. And I think a piece of it goes back to thinking about how electric systems originally kind of got started. Right? My, my favorite example is our friends over here in Ville, just finished reading the story, the history of Ville, and basically way back in the early 19 hundreds, they built a dam powered all of Ville off of this dam. And it was just like, you know, five random people who maintained it. They had lines and wires and everybody got access to electricity from it. And all those things started popping up. And this idea of kind of siloed today, the, the cool term is micro griding, right? But like siloed grids, that was how things got started. But now we live in this world where we have have this physically interconnected, large grid in that we have the ability to transmit power over long distances in order to move it from where it's generated to where it's needed. And essentially what for 8, 8, 8 did, is it allowed us to make the market match the actual grid system that we have. Right. Mm-hmm <affirmative> yeah. And evolve us out of that old model of every man for himself into more of a market based. And thank you for the econ 101 reminder, but that supply and demand piece setting pricing.

Zach Anderson, Wolverine Power ([12:21](#)):

Yeah. So to bring it back to your question about what is Mico Mico is that economic engine it's matching the generation and the load, and it's sending a price signal to say, what all these generators that I have quite literally Mico has upwards of 150,000 megawatts of generation at its disposal to serve all of the customers throughout the mid continent of the United States. And what it does is it says, I don't care if it's Rachel's generator. I don't care if it's Zach's generator. What I care about is what is the lowest cost generation in my portfolio right now, agnostically to serve the load. And so all utilities participate then in that grid to offer their generation at cost, essentially to set that price. And that makes the system operate much more efficient than say, if I, if Rachel's just operating to serve her system, that Ville example, the only generator you have to source is your generator. Mm-hmm <affirmative> now you get my generator and everyone else's generator that's out there. So instead of going from think of it this way, instead of having one generator to serve the load, you now have 150,000 and guess what you get to pick the lowest cost in that moment to meet the demand. And that's, that's where those billions of dollars of savings are coming from. And that's what the markets are designed around and to do.

Rachel Johnson, Cherryland Electric Cooperative ([13:51](#)):

So I do wanna talk more about pricing, but before we do, I think another, as you were talking, another thing that really seems important to me is there are clearly cost advantages to the market, to your point, getting to choose the lowest cost generator to meet the need at any moment in time. But if we go back to our Ville example, there are also clear reliability advantages to this. And the story of Thompson Villa is the somewhat sad one, cuz not long after they put that dam in it washed out and then they had to rebuild it and then it washed out again and then they had to rebuild it. And then eventually they realized this isn't working for us. We would rather interconnect with a larger grid. And I think that that Mo that there's a lesson there, which is we not only have access to pick the lowest cost option.

Rachel Johnson, Cherryland Electric Cooperative ([14:29](#)):

If the option closest to us is down. For whatever reason, we have redundancies built in place to support that. And I, and I, I know this is really about market and cost, but we can't hammer this message enough. This is where planning long term planning for grid capacity becomes so important because everyone who is served by myo is in the same grid system together. Mm-hmm <affirmative>, which means as we take generating sources off, we need to make sure we've kept in place the capacity redundancies necessary to meet the need of everyone in that system. Mm-hmm <affirmative> so we wanna keep hammering that message, cuz that really that's the long term risk in terms of reliability,

Zach Anderson, Wolverine Power ([15:06](#)):

Right? And we're already in a place where, again, because of this grid, we are ringing out efficiency in how many resources we need to retain because we're all in a big pool. Mm-hmm <affirmative>, it's, it's like an insurance pool. The more people you have participating and paying in the lower the rate is for everybody. It's the same thing with reliability, the more generation you have access to the less individuals have to pay for that reliability. And so that's part of our concern as we talk about reliability is we are already at a very low and very efficient amount of generation and reserves, and we're starting to cut into that efficiency and getting too close to the line. And we need to be careful of that because again, that's another area where rate payers are saving millions and billions of dollars when you look nationally, because again, sharing in a bigger pool allows for everybody to pay a little bit less and to carry a little bit less risk.

Rachel Johnson, Cherryland Electric Cooperative ([16:11](#)):

So we've talked about kind of the history of how we got here for order 8 88 Mico itself. The goals of that, that it has been successful and over time has saved, uh, both cherry land members, but also in general electric users across the system, some money let's, let's kind of look a little more recently now and we are here a lot about energy markets. We've had, uh, record high energy prices this year hitting almost 90 megawatts this summer what's what's driving those market increases. And kind of how, what does that tell us about the markets and how do, how, how do you think we should be responding to them? Yeah.

Zach Anderson, Wolverine Power ([16:47](#)):

So how to fur quarter 8 88, it took meso about nine years to go from a regional pool that was organizing generation to create the market that we have today. So in 2005, April of 2005, in fact, MISO's market came into existence as we know it, the energy market. And so since that point in time, we are now at the highest energy prices that we've ever experienced in the history of Mico. So from 2005 to 2022, we're at the highest price that we've ever experienced. And so we can talk about this a little bit more, but there really have been call it four major, um, waves of pricing if you will, in the history of Mico. So

from 2005 through, uh, almost 2009, call it wave one. And the big driver to wave one, it was a higher priced era, was hurricane Katrina. Hurricane Katrina drove up natural gas prices, which is one of the key indicators on where electric energy prices are going to go.

Zach Anderson, Wolverine Power ([17:51](#)):

And that lasted until unfortunately the great recession. And so then that begins wave two from 2009 through about 2012 energy prices were lower because economic demand was down and depressed. Mm-hmm <affirmative> so those were the first two waves, call it the Katrina era. Then you have the great recession. And then from 2012, until 2020, we enjoyed an era of low prices, really low prices, very efficient market, largely driven by the shale gas revolution. So more natural gas was coming out of, especially the Eastern United States. And for us in particular, Ohio and Pennsylvania production went way up to where go back to the 1970s. There's gas crisis, natural gas is being constrained to all of a sudden. Now, as we sit today, the us is a net exporter of, of natural gas. We have enough to meet our own needs and we're exporting some overseas and that'll be important in the wave that we're in today.

Zach Anderson, Wolverine Power ([19:00](#)):

So we really enjoyed about a 10 year decades, long calm in energy markets, driven by the shale gas revolution. That brings us to kind of this funky fourth wave that we're in 2020, similar to the great recession. We see really depressed economic activity due to COVID. But then unlike the great recession, we saw rapid economic rebound as things were artificially turned off, if you will, because of the pandemic. And then everything came roaring back in a hurry. And so that has led us to be at this place where we're now seeing prices ramp up because employment went down, drilling activity, went down, um, coal mining went down and, and was lower. And then the war in Ukraine kicks in at the beginning of, of 2022. And now we see global commodity prices for coal, natural gas driving up prices, not to mention in that decade long pause, if you will.

Zach Anderson, Wolverine Power ([20:04](#)):

We retired a significant amount of coal generation off the grid. We've talked about that. You've talked about it in previous podcast, the impact on reliability, but that also takes a big chunk of traditionally stable, low cost energy outta the marketplace. And now we're really relying on natural gas to set the market and with natural gas nearing, um, decades records at almost \$10 per, mm, B T U, what does that mean? That's about a hundred dollars per megawatt hour. And so you're, you're seeing these record high prices. And so those are the four waves we saw the Katrina era we saw then the great recession, shale gas revolution, and then sort of this wonky period we're in right now where economic decline with the pandemic and then global instability with Russia, driving down activity on the drilling side, driving up, uh, commodity prices with loss of supply globally

Rachel Johnson, Cherryland Electric Cooperative ([21:03](#)):

And all of that happening at a time when the electric system is more exposed to natural gas prices because of its increasing importance in our portfolio. Correct. So you have these trends that aren't necessarily, well, they may look a little different now. They're not necessarily new trends. You talk about Katrina putting pressure on natural gas prices. The one of the large, one of the big things that has shifted for us is our out, not our Wolverine, but our in general, the, the market's exposure to those prices in terms of electricity, right? Mm-hmm <affirmative> so the market is what I'm hearing you say is the market is doing exactly what the market is designed to do and the pain, the pain points of it are, are real. Like it's a real reflection of what's going on, geopolitically supply and demand. And that is

something we have to now deal with. Mm-hmm <affirmative> um, talk to me about kind of what you see, if you, when you look in your electric market, crystal ball, where are the markets going right now and, and kind of, what will that mean for our members and what should they be prepared for?

Zach Anderson, Wolverine Power ([22:04](#)):

Yeah. So we should call this things that are sure to go wrong. Whatever I tell you, I will definitely be wrong. Okay. But in the near term, what's expected to occur is that prices will remain high. Um, they'll remain at an elevated level right now, what we're seeing, just if you want to go out and trade around power and what the power markets are doing, you can go out and buy 10 years ahead, 15 years ahead. It's a really bad time to do that, but you can. And so that gives you an indication of where things are expected to go, and they're significantly higher than the historical average for energy. Right now, I expect that three to four years from now, things will start to calm down. And why might that be? So hopefully good news global instability that we're experiencing right now has calmed down.

Zach Anderson, Wolverine Power ([22:54](#)):

We'll see more generation get built. The primary generation that will get built is renewable generation. There's a ton of proposed wind and solar projects across the country. The good news on that is that it's zero fuel cost. So when we talk about the supply and demand aspect of it, that means from an energy perspective, anytime you have renewable, it's \$0 per megawatt hour. That's how, how it's traded in the energy grid. The challenge with weather dependent renewables is that it creates a lot of volatility in the market. And we've seen this play out on a national level states like California, experience, this Texas experiences, this the, um, call it the mid part of the country. The windier states from the planes experience, this where there's a lot more renewable and their pricing tends to be more volatile. So when you think about near term prices are going to remain elevated while we build things out long term, more volatility, because you'll have zero pricing and super high pricing.

Zach Anderson, Wolverine Power ([23:59](#)):

So to put this at, at its most extreme, I told you, I'd bring this back to Texas for a moment <laugh>. So in Texas, when they had their energy disaster in the winter of 2021, now affectionately known as winter storm Yuri mm-hmm <affirmative>. They saw power or energy prices, excuse me, at \$9,000 per megawatt hour to, um, put that in perspective on a, on a member's bill. You think about your bill you're on average round numbers, you're paying 15 cents per kilowatt hour. That is \$9 per kilowatt, hour, \$9 per kilowatt hour. That was the price. On one day, they have so much wind in Texas that not within that week, within that same week, they had \$9 per kilowatt hour. They had negative energy pricing because they had so much wind at a, at a given hour. So that's an extreme case of the volatility, but that's what we're moving towards in the long run. And we'll continue to see until new technology improves like storage and things like that will continue to see natural gas and renewables as the key drivers to the market. As we see more and more coal and nuclear expected to retire in the, in the years ahead.

Rachel Johnson, Cherryland Electric Cooperative ([25:17](#)):

So if we were to attach a prediction to what we'll call the fifth wave of the market, it's volatility, volatility is really what we should be expecting. And I think that that's, this is where Zach I'm always just so grateful. I'm a cherry land member. I'm grateful to be a cherry land member. And I'm very grateful that cherry land is a Wolverine member because the, the volatility is real. The markets are what the markets are. They're clearly operating the way they're designed to operate. And what makes me feel good is knowing that I'm a part of an electric cooperative that makes decisions based on what's in the best

interest of the people we serve that is cost based. We're not trying to play the markets to make a bunch of money, to put into a stockholder's pocket. Mm-hmm <affirmative>. We are trying to figure out how to best serve our communities and our members. And that those decisions now are going to have to be made with an eye towards how to manage volatility is, is what I'm hearing

Zach Anderson, Wolverine Power ([26:07](#)):

From you. Exactly. And as we'll talk about more, that's where a portfolio comes in, because how do you manage volatility? Long term, you have diversity of assets. You don't put all of your eggs in one basket, and you have a portfolio in place that over time, you may not get the lowest of the low prices when energy markets are at zero, because there's so much renewable, but you also don't get the highest of the highs when there's scarcity pricing. And it's \$9,000 per megawatt hour. Fortunately, for us in our markets, it cannot go that high, but it can go really high. And we wanna avoid those times too.

Rachel Johnson, Cherryland Electric Cooperative ([26:41](#)):

I think that is a perfect teaser to end this section of the podcast on, if you would like to hear more about how we are approaching planning for these volatile markets and how we're using our portfolio to protect our members and our communities, uh, we will be having a part two of this podcast. So please listen in for that. And Zach, I just really wanna take a moment and thank you for coming in and talking to our members about the markets. It's a really complex topic, but I think it's one that the more they understand the better equipped they are to advocate for themselves. So thank you. Of course, thank

Speaker 3 ([27:09](#)):

You for the opportunity.

Rachel Johnson, Cherryland Electric Cooperative ([27:13](#)):

So that was the first of a two part series on what we see going on in the power supply markets and power supply pricing. Today, as I mentioned at the beginning of this podcast, it's a really important topic because 70 cents of every dollar we spend goes toward power supply. If you're interested in finding out how we are leveraging our portfolio to help protect us against the volatility of the markets, please make sure to check out part two of this podcast series. And also I mentioned in the podcast a few times, the history of Ville and how that kind of has some interesting insights for when we think about how the energy markets evolved. I just wanna give a shout out to Charles Krause who wrote a book recently called Ville in time. And it is, uh, just a really fascinating read about an important part of our regional history. And I highly recommend you check it out and pick it up at a bookstore near you. Join us next time for more co-op energy talk.