

Field Day Podcast Ep. 27 Solar Farms

Jordan Hoewischer [00:00:00] Welcome to Episode 27 of the Field Day podcast brought to you by the Ohio Farm Bureau Federation. I am your host, Jordan Hoewischer, director of water quality and research with the Ohio Farm Bureau. As a landowner or a farmer around the state, certainly solar projects have come onto your radar either by a neighbor putting one up or just hearing about it in the news or in your farm publications. Today we're talking to Dale Arnold from the Ohio Farm Bureau Federation. I would say that I'm unbiased in this opinion of he is probably the Midwest or country's foremost expert in all that is energy. He comes with a wealth of knowledge and has been with Farm Bureau for four decades and I am really happy to have him on to talk about something that I really know very little about. So it's educational for me and also hopefully for you. And hopefully it'll add a little bit of guidance. If you do have somebody approach you about a solar project or even if you're a non- farmer and you see a project coming into your county, you'll have a little bit of a better understanding of where it came from and who is involved. So hopefully we'll learn something today. Enjoy.

Jordan Hoewischer [00:01:12] All right, well, we'll get started here. I guess this is the second time I've had you on the podcast, so I'll just have you briefly introduce yourself again and tell us what you do at Farm Bureau.

Dale Arnold [00:01:25] Great. Hi, guys, this is Dale Arnold. I'm director of energy, utility and local government with the Ohio Farm Bureau. I've been with the Farm Bureau for about 35 years, and I'm that person basically that when a member has any questions or concerns about anything energy related, like oil and gas or pipelines or transmission lines or electric bills, renewables, metering, new technology for use on the farm, all those things, I'm the person who basically comes out and helps them get the resources they need to make some decisions.

Jordan Hoewischer [00:02:06] Today I wanted to talk about something that I keep hearing a lot about anecdotally around the state but don't really know much about and that's solar farms. And so where are we at with solar farms? I'm to here to squeeze the lemon as much as I can.

Dale Arnold [00:02:35] OK, cool. You know, if we had this conversation as little as 10 years ago about solar in Ohio, people would have said we were crazy. But the technology is really advanced, both for on site applications as well as utility applications. And right now, here in the state of Ohio, a lot of our members basically are taking a look at on site use to help them control some energy costs. And we have a lot of farmers who are investing in on site solar so that it can generate some of their own electricity. They're working with their utility service providers. They're working through interconnection agreements. They're investing in this just as they would basically in new land or a new combine or new tools on the farm to control their costs. And right now, through the PUCO and Ren permit (a renewable energy network permit) that people are supposed to have the interconnect. There's over 10,000 farms, homes and small businesses who are investing in that technology as we speak and have it there on site. However, we're hearing a lot and you're seeing a lot in western Ohio, southwestern Ohio and now in central Ohio about utility-scale solar projects. And right now at the Ohio Power Siting Board, which is the authority here in the state to those all deciding technical work, environmental consideration and issues permit. There are 22 utility scale solar projects in different areas of the state that are under consideration and going through the permitting process and also working with Farm Bureau members in a number of other counties who are being

approached about leases and things on their land. There's another seven or eight that the power siting board doesn't even know about yet. So this has been going on for three to four years. This is a new wave of going through. This is a very viable use of energy development. And our members and farmers and communities are now faced with taking a look at some of these large-scale projects.

Jordan Hoewischer [00:04:49] So, you know, you mentioned this leap in technology in terms of increasing these projects over the state. So is it the efficiency of conversion? Is it efficiency of collection? Is it the price? Is it subsidies? So what's made this so enticing for solar to pop up?

Dale Arnold [00:05:14] Good question, because I'll tell you this, it's all three that we just talked about here and to your question, what people are starting to realize is that when you take a look at solar, it is much more efficient today. And also, too, if you take a look at electricity, electricity is a commodity just like corn, wheat, beans. Electricity is bought, sold, traded the same way. And it's been done that way for over a century. Right now, if you take a look at energy prices and cost of production, if you take a look at the latest figures from the US Department of Energy, Energy Information Agency, coal fired generation is somewhere around \$48 to \$49 per megawatt to get into the system. Nuclear is around \$46 to \$47 dollars per megawatt. Natural gas fired turbine generation, which Ohio has a lot of because of Marcellus Shale drilling development over the last 10 years, is around \$26 to \$27. Solar is around \$21 to \$22 and wind is around \$22, and so consequently it's lower cost for purchasing those particular commodities. And like you say, an electron is an electron, is an electron once it hits the transmission and distribution system. Also too, utilities and energy service providers, this has been part of the plan for quite some time. Service providers take a look out 30 years as the immediate time block that they have to have things in place to address energy needs. I've been with Farm Bureau for 36 years. I remember having conversations and going to planning sessions where this type of technology was being contemplated in the 1990s and you're starting to see those plans being executed today. So this is very much part of the particular process of subsidies. Yes, there were subsidies basically in the 90s and the early part of the century to help develop this type of technology because people were seeing the need. What's also interesting, too, is that those particular subsidies in many shapes, ways and forms with the federal government are no longer needed because these types of systems are standing up. They're becoming cost competitive. They're delivering electricity into the system safely, efficiently, effectively. Both become part of our energy mix and we'll continue to do so well into the second half of this century.

Jordan Hoewischer [00:07:50] I know some people probably complain about subsidies sometimes, but obviously it kind of did the trick on this one and probably the same thing with wind where it's kind of if you build it, they will come. Is a part of the planning, those 30 year plans where they're like, well, I know the technology is not there, but we hope it will be in 30 years.

Dale Arnold [00:08:12] Yeah, it was interesting that just as little as 10 to 12 years ago, 2052 was considered basically the watershed year. In 2052, you would see renewable technology, along with natural gas fired turbine generation, become the major generation sources from that point going forward. Those advances basically and Marcellus and Utica shale drilling development that our friends in eastern Ohio are witnessing with regard to solar technology being launched and being very efficient and also wind. That year is no longer 2052, it's 2035. And so the technology is advanced more rapidly than what people

thought. The need for electricity is still very much there as well as growing. And so this is a very natural progression to meet that particular need.

Jordan Hoewischer [00:09:05] That's pretty interesting because you would never think... I know solar power, you know what I'm thinking about it. You know, in the 90s, you're thinking, oh, that's somebody that's off the grid that just needs to power like a blender or something or get the coffeemaker going in their cabin or something. But to the point where people... You see it on the sides of barns all over the place and you see these these bigger farms popping up, it's pretty interesting. So what do these bigger utility side, utility grade solar farms look like?

Dale Arnold [00:09:41] Well, and I tell you, that was very much a myth in itself. We're working with a lot of our friends and neighbors who are hearing about these large-scale utility power generation projects, and they think that they're going to be like the ones you see out West in the desert, that where they will come in basically flattened all the ground, take all the vegetation off, laying gravel and solar panels as far as the eye can see. Please rest assured, that's not the plan here in Ohio as well as other areas of the Corn Belt states. When you're taking a look at leasing here in Ohio, if you lease a thousand acres, you're only going to be able to use somewhere around 55 to 60% of that, because if you're going to be building a solar array, there will be a vegetative management plan with regard to grass being used, not just weed control, pollinator habitat. You have companies working with farmers right now taking a look at what can be done with regard to agricultural production underneath the solar panel, animal husbandry operations with regard to sheep, those are coming into play. Also too, no cement basically is being used. All of the subsurface field tile systems are to be preserved because they still are needed for agricultural drainage stream banks, wetlands, woodlots, NRCS approved conservation practices all have to be preserved. You have to build around basically what is in that farm field to ensure environmental and soil and water conservation, water quality and those things. And so it's a very intricate plan. And one of the reasons why Farm Bureau is very much involved in cases with the power siting board is to make sure that those principles are preserved. And because when you take a look at wind and solar, these are the first type of energy production projects that the plans are already in place and the finances to ensure that when the plant retires, it goes back into agricultural production, are part of the plan and are established first off at the beginning of the process and not the end. And so a number of things are in place to make sure that this can go back in agricultural production once the plant is retired.

Jordan Hoewischer [00:12:10] That probably makes it a little bit easier for some people to sign up to say, OK, well, we know going to be a long time, but it's not forever. Because I think what I see, the wind turbines, I think man like those are kind of they're forever at least the infrastructure is. But you at least get the farm around it to a certain degree... So say you have a large field that you have in solar and you have vegetated buffers and all that stuff. Are you allowed to graze it? Are you allowed to have sheep or cattle on these things?

Dale Arnold [00:12:50] Yeah, and Roger High and I with Farm Bureau, have been really taking a look at that, because you do have some energy companies who want to write that into their vegetated management plan. But what people need to realize is this: yes, the land use of that particular space is going to change, is going to go from agriculture to being a power generation station, and power generation will be the first priority for that piece of ground in writing the vegetative management plan. If you're going to do animal husbandry, if they're going to do some sort of agricultural production underneath, that can be written into the plan. But the Ohio Power Siting Board and other authorities on power generation

are going to have to approve that. It'll be part of the plan throughout the life of the project. Farmers will be invited to basically to participate with regard to that. But as I'm telling a number of farmers who are looking at that, you really need to take a look at what the responsibilities are, because this is a much different legal agreement and lease than what you have seen before. You are secondary to power production. You will always be secondary and the company will have a final say in what is being done on that piece of ground. If you can live with that, adapt to it different things, that's fine. If not, you need to have some things written in that lease agreement which protects you if other decisions are made because it's a power production facility. It's something to really take a look at.

Jordan Hoewischer [00:14:29] Yeah, because if it's worked out, it's advantageous for both sides. So, the farmer gets paid for use for solar and then potentially gets maybe some sheep or cattle on it. But then the company, they have to have a vegetative plan, management plan either way. They can just let everything grow up around it. So there's a good, happy agreement that can be had with that situation.

Dale Arnold [00:15:01] Yeah. I tell farmers, you really need to understand this. They're going to have a vegetative management plan. It is part of their permits. If they say they're going to be doing animal husbandry and sheep grazing around that, there better be sheep there and say after three or four years, if you're a farmer and you're doing a grazing plan underneath those solar panels and you decide basically you no longer want to do that. There's going to be some repercussions. For the farmer? Don't know; depends on what's written into the lease agreement. For the company, they will have to go back to the Ohio Power Siting Board and amend their permits to do other vegetative management because those sheep are gone. That's something to really seriously take a look at.

Jordan Hoewischer [00:15:51] That makes sense. I mean, because it's not just like, oh, I guess this year I'll do sheep. It's like, no, you have to you have to plan ahead. So how are farmers being paid for their land use? How does that work?

Dale Arnold [00:16:12] Basically, from the farmers we've talked to, they're being paid per acre, per year a set fee. Some of them have built in a cost of living increase with regard to that. And we've been working with a lot of farm families. You know, a lot of farmers basically are multigenerational, grandpa, dad, the grandkids are all involved basically in the operation. I've sat down and Farm Bureau has done a lot of kitchen table meetings with folks to take a look at, OK, if this works, there's going to be resources there for grandpa to retire. Dad, who becomes the senior partner is going to want to take some of those assets and invest in additional land or barns or equipment to enhance the viability of the farming operation. And the son and daughter who might be working full or part time off the farm and want to come full time onto the farm, there has to be a transition process for them, too. And so those resources are really going to be vital for a lot of families for taking a look at that. As a matter of fact, they spend more time taking a look at that transition plan, and rightfully so, than maybe even the lease agreements and things negotiating them because it has to be carefully done. So that's going on there. A lot of farmers, too, are telling me that when you take a look at the income coming in and you know, and I take a look at how much it costs for me and how much I'm making keeping agriculture production, leasing that out to an energy service provider long term is a good investment. It's a long term investment. It's predictable. And consequently, it is more than what I can do basically keeping it in an agricultural operation. And so a lot of families are taking a look at that. Bankers, appraisers, Farm Credit Service people are taking a look at it too. If you have part of your farm into a lease agreement, the first thing they want to do is take a look at that to ensure basically that risk is mitigated. Income is coming in. I tell people to have a

good lease enhances your ability to do a number of things because financially it's there and it's an asset. A bad lease that you signed on the hood of a pickup truck does the exact opposite. And so we have a lot of our our farming friends and neighbors who are evaluating that very carefully as we speak. And at Farm Bureau, we help them get good legal referrals and different things and legal advice to help them do that, too.

Jordan Hoewischer [00:18:56] So what's the duration of these farms or what are some of the proposals that are out there? So what's a farmer signing up for?

Dale Arnold [00:19:03] If you take a look at it, many of them basically are for an initial 30-year term, and that's to be expected because when you take a look at power generation and commodity purchase agreements, the average life of a commodity purchase agreement in the energy industry is a 30- year fixed price term between an energy service provider and a large consumer. We're also seeing this technology continue to evolve, and I tell farmers, don't be a bit surprised, in year seven, eight or nine, they come back in, switch out the old solar panels with new, more efficient, more powerful ones. You're also taking a look at what's called energy storage. Right now, many of these projects start as an intermittent power supply and they generate electricity when the sun is shining. But you're seeing battery backup systems like you're seeing with the Minister, Ohio's Municipal Electric Company project, where the solar array does not basically power the town. It powers a battery backup system and large capacitors. And those basically provide electricity, 7, 24, 365 like a coal, nuclear or natural gas fired turbine station. And so this technology continues to advance. It's going from intermediate to baseload. Those things are very much in the future, and you're seeing that basically being very well established here in Ohio.

Jordan Hoewischer [00:20:35] Yeah, it makes sense, and that's where the payment structure comes in with the contract. I mean, Say you get a thousand dollars an acre. That thousand dollars is way different in 2020 versus 2050.

Dale Arnold [00:20:54] We tell farmers this: that in your lease agreement, hey, anything and everything is negotiable. You need to basically negotiate a cost of living increase that is indexed to the cost of living and different things with the federal government. You also need to take a look at if they make upgrades to the system and their ability to make money is enhanced, your rental payments should also proportionately be enhanced too. That's all part of the process.

Jordan Hoewischer [00:21:27] Yeah, because you could be passing a dirty diaper to the next generation for the back half of that lease. So does it change the tax structure at all for that land, considering it's a power generation station, essentially?

Dale Arnold [00:21:52] Yes, it does. Very good question, because, yeah, the minute they start construction, CAUV goes out the window. I hate to say this, but agriculture's CAUV is the lowest real estate tax structure or tax strata. Utility generation is the highest. You want to make sure that when they start construction, that the difference between what you're paying now in tax and what's going to happen is on their nickel and not yours. That has to be detailed in the lease itself and consequently, the recoupment. all those things very much come into play, tax and different things, real estate, obligations to government and different things, because that there and it needs to be paid by the energy service provider. And you want to make sure in that lease it clearly says that and you're not liable for those new fees.

Jordan Hoewischer [00:22:58] Yeah, I can see that being the difference between a good and a bad contract. That could really sneak up on somebody because nothing gets our farmers fired up more than an abrupt change in their tax bill.

Dale Arnold [00:23:13] Yeah, Surprise! But also what's interesting is this is that many of the farmers we work with are not only concerned about the well-being of their families, but the well-being of their communities. They often ask me. 'If this happens here, how is my community going to benefit?' And with the payment in lieu of taxes or pilot program here in Ohio, you're talking upwards of \$9,000 per megawatt of capacity. That means that regardless of this, the sun is shining or not, if they're selling electricity. If this is like a hundred megawatt system, one hundred times \$9,000 maximum. I think you can get the picture. And there's a very specific formula in the Ohio administrative code that county auditors will use. That money will go to the school system in the school district where the facility is located, township government and county government. And all of that money stays in the community. None of it goes to the state. County commissioners are very much responsible for negotiating those pilot payments. And we at Farm Bureau working with the County Commissioners Association and others help and do training and provide input to county commissioners when they have that opportunity to negotiate pilot payment program.

Jordan Hoewischer [00:24:44] That makes sense. I mean, I guess that's one of the perceived positives of it, if you can get that tax structure worked out with the energy company, that's a big boon for the for the local school system and community.

Dale Arnold [00:25:02] Yeah, but what's also interesting, Jordan, is I'll tell you this. For people, for every person who is very much interested and kind of supports this type of development, we have others who have very serious questions and concerns. And right here at Farm Bureau, we say rightfully so. People ask us, are you for these solar projects or not? And we tell them at Farm Bureau, we're neutral with regard to that because we have members on both sides and rightfully so. They have concerns. We tell our members, and when you take a look at our policy, we basically support the Ohio Power Siting Board process. And I tell you, when I do meetings, I do meetings for people who are looking at this technology and welcoming it. And we also do other meetings and sometimes the same meetings at the same time. for people who have concerns. We show them how to get involved in the power siting board process. We show them how to get involved in the hearing, negotiate stipulations and agreements, get their concerns addressed. We help them get access to legal counsel if they want to take their concerns to the judicial level. And so that's our policy. Our policy is that we advocate all parties with all concerns being involved in the power siting board process, and that policy has served us extremely well.

Jordan Hoewischer [00:26:31] I think it's a good point because when someone maybe has an issue or questions, it's like your county commissioners aren't the ones to go to, your city officials aren't the ones to go. The power siting board, it seems like.

Dale Arnold [00:26:46] Yeah, and there is a place in that process with power board where county commissioners and township trustees and schools have a part of the process. They are invited and have no problems becoming a party of record in case work. And they work in tandem with the power siting board. I've talked to some township trustees who said to me Dale, take a look here. When I became a township trustee, I was concerned on dust and ice control, bridge maintenance, link fence disputes and cemeteries. When you're talking about a multi-million dollar facility coming here and changes or decisions have to be made, I'm not a technical expert, but I want to have access and work with technical

expertise to make sure that my community is enhanced, preserved and benefits. And so even those local government officials welcome being involved in that process.

Jordan Hoewischer [00:27:49] This is a whole different animal than what they're used to. I feel like we've laid out some pretty good positives in terms of securing income for multiple generations and more taxes to the community and all that. What are the perceived negatives of having either a solar farm come onto your farm or one into your community?

Dale Arnold [00:28:26] Yeah, coming in the community, a lot of while you might benefit from it, a lot of your neighbors are going to have a concern. Please rest assured in the power siting board process. When you take a look at the esthetic, there are very specific plans and computer enhanced models are part of the permit to show what it's going to look like. When I drive down the road or I look at my backyard and I see solar panels, I might be a neighbor and might be on the other property owner adjacent to me. What's going on here? Those companies still have to reach out to you. I've seen some companies do it extremely well...they'll go to that landowner. OK, what type of vegetative masking and fencing that you want to have so when you walk out on your patio, you don't see this. I've seen others, that they've actually redone the layout of their solar arrays so those neighbors don't have to see it. I've seen others do good neighbor agreements that they're part of the project, too, because they're providing that sunshine going across their property and they receive basically an annual payment just the same as their neighboring farmer. And the company has to show in the permit that they're working with you to do that. You cannot be ignored. They can't walk over you. Once you've seen with other utility infrastructure in the early stages of the 20th century. Does that quell or does that address everyone's concerns? Not necessarily, but it helps when you're talking about energy development here in Ohio. Energy development is not a popularity contest. If it was, we'd be all sitting in the cold and in the dark. However, with the power siting board process, which is kind of unique to Ohio, those issues and concerns need to be addressed. And there is a continual complaint resolution process with the power siting board to make sure that that happens. Power siting board is not going to go away when construction is done. It's going to be here through the entire light of the project.

Jordan Hoewischer [00:30:37] So, a neighbor has to be included, but they necessarily can't sink a project if they didn't like it.

Dale Arnold [00:30:48] Right. I tell you, a lot of that work basically needs to be done. It's interesting too. Some companies do it extremely well. And through Farm Bureau, I sat down with a number of them and their legal counsel as part of this process. And I tell them this, you really need to get out there and you need to talk to folks. You need to be more transparent. It's the first time that people discovered you're in the area that they're talking to farmers and the rumor mill starts and gosh, they're leasing with these farmers and they're telling them to keep quiet or whatever. They must be starting construction real, real quick. What's going on here? That's not necessarily the best foot forward in the community. I tell them you need to talk to your county commissioners. You need to talk to your township trustees. You need to have open house meetings. You need to go out there and talk to every neighbor. You need to address every particular concern. For every dollar that you spend doing that community education and outreach before you start construction, it's going to save you about \$10 in litigation on the other side. Some companies do that extremely well and others, they don't and I think you can see in different parts of the state where that's not done well and those folks have questions, concerns rightfully so, and we advocate for them to make sure that those questions are answered.

Jordan Hoewischer [00:32:20] Now, with 20 or 30 projects going on around the state, eventually, does the power siting board have the capacity to sort through all that? I mean, is this unprecedented?

Dale Arnold [00:32:36] Yes. But so far they do. Because I'll tell you, the power siting board process, basically from just an average, if I was an energy service provider and I came to Ohio today and I said, I'm going to start a project right here. From that point to when you get your permit, it could be five to six years down the line because there's a very specific process of technical, environmental, economic, esthetic, social evaluations that need to be done with regard to that permit. This is not done overnight. I've had a lot of farmers and rural residents call me saying, hey, we heard in the community this rumor here that there's an energy service provider and there's farmers doing solar leasing and they're going to start construction next week. Nope, that's not the case. It's going to be six years down the line, which means you have time to be involved in the process and you need to get involved in the process. And we've got people doing that. The power siting board has that capacity in this state. They are the judge, the jury and executioner for that process. They work with a number of state and federal agencies. The Ohio Department of Agriculture has a seat on the power siting board. Which means agriculture basically is looked at quite a bit. They work with the US Fish and Wildlife Service, they work with the US Army Corps of Engineers, the US EPA, the Federal Aviation Administration. The number of state and federal agencies looking over the welfare of that land and different things are coordinated with regard to that. There are staff and people there. Yes, this is unprecedented. You're seeing 21 permits in different stages of development, but I think also too the power siting board is going to say, OK, we're going to take a look at each one of these individually. This is the process. This is where you're at in the queue. This is our schedule of different things and you're going to abide by it. So we'll see what happens.

Jordan Hoewischer [00:34:42] So what's the what should you do if someone comes onto your farm or approaches you about doing a solar project on your farm? What's kind of those first steps that you should take?

Dale Arnold [00:34:57] OK, I'd say this, too, when that young gentleman drives up in a shiny white pickup truck and talks to you about 'We want to talk to you about leasing for solar.' First question to ask is, OK, who is going to own the metal? Who is going to be my potential business partner? I want to know who that energy service provider is. Who has the federal permits for interconnection, which you have to have first and you pay about a quarter million dollars for those. Who's the guy with the paper from the feds? Who is that company I'm going to be working with? I want to talk directly to them and I have the right to do so. That's number one. Number two: references. Who have you worked with other projects? Do not be a bit surprised when you get some names that can be farmers and rural residents in several other states. Nothing wrong with that. But I also tell folks this: get five, not three, but five and when you get time, sit down and pack your lunch. Call those people up and talk to them. When I've done reference calls, the minimum amount of time, basically, I've been on the phone is forty five minutes, and we talk about what kind of treatment have you gotten from that particular service provider? Did he basically watch out for the things that you've done on your property? Did he work with your neighbors? Did he work with the community? Basically, are you being paid on time with regard to your lease payment? Are things still going as planned with that provider? It's amazing how some of those farmers and rural residents in other areas of the country will tell you things that that service provider doesn't. And so you need to know those too. I would also say you want to talk with your township trustees to make sure that they understand, appreciate and know

what's going on. Talk with your county commissioners and different things. Talk with your neighbors about we're taking a look at this because you shouldn't have to do this in a vacuum because other people are going to be impacted. Other people are going to be involved in decision making. You need to be part of that process, too. That's what I tell farmers they need to take a look at.

Jordan Hoewischer [00:37:12] I think it's sound advice. I mean, you are at a disadvantage when the truck pulls in, but you can quickly be at an advantage, I think, if you listen to those simple steps.

Dale Arnold [00:37:25] One thing I think happens too is some companies try to make you feel as though you are alone in the decision making process. You're not. There's a lot of other people involved and you have the right to reach out to them and talk with them and work and collaborate with them when you make your decisions.

Jordan Hoewischer [00:37:48] I think that's a good point. I was going to switch gears to one of my kind of a more philosophical question. Do these solar projects, are they a serious threat to food production at all in Ohio, or is it more just kind of a pretty small percentage of acres still?

Dale Arnold [00:38:09] Pretty small percentage of acres. I'll tell you this, some studies done by our friends at the Ohio State University Extension, if we took every solar farm and their land requirement and put them all someplace in western Ohio in one spot, they take up basically somewhere around a township worth of ground. And so it's much smaller than what people say or think. And I tell you this, too, we're talking here about, you know, small areas. What I need to remind people of this, when you take a look at energy development at this time in the last century in eastern Ohio, when coal fired generation was very huge, we had these things called strip mines. And there are strip mine scars that are measured in the hundreds of square miles that we are still trying to repair, remediate and do things with in Ohio and other parts of the Appalachian Plateau. I think we've learned from that because when you take a look at the repair, remediation and retirement or decommissioning guidelines for these, it is much different than power generation was in the last century. I also find it kind of interesting that people are concerned about a solar farm. But I was at a meeting in western Ohio six months ago where some economic development folks basically announced that they had 6,000, 7,000 acres basically of land already in place for economic development, for industrial parks, distribution centers, those things. They already had utility hookups, highways. And then they showed a video of where that land was located and it was drone shot of corn fields with corn still in them. I'm saying this, that, you know, yes, this is ground taken out of production. It's still relatively small. We need to take a look at that and continue to monitor that, and we also need to make sure that those standards are in place to return it to farm ground. And like you say, with wind and solar, these are the first projects that we've seen where those plans have to be in place. The finances to do it have to be in place before you even basically break ground. We don't see that with oil and gas. We don't see that with coal. We don't see that basically with industrial parks or other types of land use.

Jordan Hoewischer [00:40:50] No, I think it's a good point. I just was curious, because I have a hard time wrapping my head around the scale of all of these.

Dale Arnold [00:40:58] So, yeah, it's like I say the smallest solar farm we have in the state had basically leased out 320 acres. The largest one, which is a combination of two project is 2,000 acres. Will all 2,000 of those acres going to be used. The answer is no. Basically

between 45 and 65% of the land leased will have solar panels on it. But the spacing, the setbacks, the preservation of highly erodible soils, wetlands, woodlots, those things, setbacks from adjoining landowners, fencing and right away all have to come in play. The spacing of those is part of those particular project leases too.

Jordan Hoewischer [00:41:47] I think I've run out of any questions that I've drummed up. Is there anything that I've missed that you think is worthwhile to anyone that's interested in this topic?

Dale Arnold [00:42:00] Yeah, we're doing meetings all the time. If someone has a question or concern or wants to, have them contact their county Farm Bureau, even basically with covid-19, we are doing Zoom meetings and video conferences with folks. I'm doing them on a very regular basis in the evening and in the afternoons. And this is the start of a conversation. We don't expect everybody to understand and appreciate and have all their questions answered by listening to one program or attending one session. There's been several places where I've worked with county Farm Bureaus and been back to meetings eight or nine times. And so if you've got any questions, call your County Farm Bureau and have us out.

Jordan Hoewischer [00:42:45] Well, that's great. I think that's a good spot to end with, with a salute to your county Farm Bureau and getting involved as much as you can. So Dale, I really appreciate your time and your endless amounts of amount of information on this topic. And we'll we'll check in another time when another topic rears its head.

Dale Arnold [00:43:05] All right, will you take it easy, my friend? Stay safe and healthy and we'll see you soon.

Jordan Hoewischer [00:43:19] And that was Dale Arnold, director of energy, utility and local government policy at the Ohio Farm Bureau Federation. As always, if you have any questions, feel free to email me jhoweischer@ofbf.org. And as always, if you're more curious about the subject or want to become a member or look into member benefits of Ohio Farm Bureau, go to ofbf.org.