

[00:00:00] **Nick Hylla:** Hey everybody, this is Nick. Before we dive into this episode, do us a big favor and click subscribe in your podcast player or on YouTube by doing so you will be alerted every time we post a new episode. And if you feel so inspired, you could also thumbs up or comment, to get us more engagement. I also want to remind everybody that the fare is bad.

[00:00:22] June 24th to the 26th at the MREA, campus and customer, Wisconsin, we have a beautiful campus. There'll be thousands of the nicest people that you would ever hope to meet here. And we promise the weather will be beautiful for information or to buy tickets, go to the energy fair dot org.

[00:00:43] That's the energy fair.org. We hope to see you there.

[00:00:50] **Kyle Galloway:** This episode of the Rise Up Podcast features Peter Murphy. The MREA's Grow Solar Program Director and new Associate Director of the MREA. Nick spoke with Peter about the development and growth of the Grow Solar Group buy program, the strength of collective buying power in solar curious communities and methods to improve access to the benefits of solar.

[00:01:12] You can learn more about Grow Solar opportunities and the benefits of solar by attending the 31st annual Energy Fair June 24th through the 26th, 2022 in Custer, Wisconsin. Tickets on sale now at [theenergyfair.org / ticket](https://theenergyfair.org/ticket).

[00:01:29] **Nick Hylla:** Peter Murphy, welcome to the Rise Up podcast. How are you doing today?

[00:01:33] **Peter Murphy:** I'm doing extremely well, thank you. How are you today Nick?

[00:01:37] **Nick Hylla:** I'm not that good, but now that we're talking, it's getting better, it's getting better and better. Can we start with a rapid fire series of questions?

[00:01:47] **Peter Murphy:** Yeah, I do. I don't really have a choice.

[00:01:49] **Nick Hylla:** You don't, you could answer them slowly and then it'll slow down the rapidity.

[00:01:55] **Peter Murphy:** Oh, right. I love stalling. Okay.

[00:01:58] **Nick Hylla:** Are you ready? Yes. When did MREA start offering solar group buy programs?

[00:02:06] **Peter Murphy:** First one to my knowledge was in 2013 in Milwaukee.

[00:02:10] **Nick Hylla:** And how many have we done so far?

[00:02:13] **Peter Murphy:** 52.

[00:02:15] **Nick Hylla:** How many individuals have attended public power hour presentations?

[00:02:22] **Peter Murphy:** That's a good question. 11,700 on the dot.

[00:02:28] **Nick Hylla:** 11,700. How many of those people, had moved have moved forward with a solar installation?

[00:02:35] **Peter Murphy:** 2,375?

[00:02:38] **Nick Hylla:** How many total kilowatts, this, that represent?

[00:02:43] **Peter Murphy:** 17,452.

[00:02:46] **Nick Hylla:** What is the total economic investment represented by those installed kilowatts?

[00:02:54] **Peter Murphy:** \$53,166,018.

[00:03:00] **Nick Hylla:** And how much carbon dioxide or those systems currently offsetting?

[00:03:08] **Peter Murphy:** Ooh, that's a good question. I might not have that one.

[00:03:13] **Nick Hylla:** We have reached the end of your...

[00:03:16] **Peter Murphy:** No I could make, I could make an educated guess real quick. Per year, it's around. We're talking or talking like, oh shoot. I've got to put it into EPA, carbon emissions, carbon equivalencies calculator. I'll do that real quick. As a general, like real easy, and I think pretty conservative, rule of

thumb generally use around 1200 kilowatt hours per kilowatt per year. I think in general, most, most kilowatts through our programs are slated to produce higher than that.

[00:03:50] So that's a conservative estimate. Let's see, 19,973,000 pounds of carbon dioxide equivalent per year.

[00:04:00] **Nick Hylla:** Yeah, that's a lot. If you'd like, think about, if you feel the carbon dioxide in the air, like.

[00:04:09] You can feel it.

[00:04:09] **Peter Murphy:** Oh yeah. It's in there. It's doing it. There's more and more parts per million of it every day.

[00:04:17] **Nick Hylla:** Well, that's a pretty, some pretty interesting statistics. Now let's stop quantifying and let's start qualifying a little bit. So customers, potential customers, people interested, people that come to a power hour, whether it be online or in person at a library, a coffee shop or a brewery, or what have you. In over the last years, what do you think is driving their interests and what major questions do they have?

[00:04:43] **Peter Murphy:** Well, it's been changing over time. I think primarily for the first several years it was environmental motivations that got them to the presentation. And then what generally, I think seals the deal for them is finding out the financials are not, the financials are realistic and worthy of their investment.

[00:05:06] In other words, a lot of times we'll see a simple payback of, maybe 11 or 12 years is like the that's kind of the threshold of the, the going, rule of thumb or the kind of, kind of common knowledge around, from what I've been hearing from solar installers is that like the threshold for a conversion for a lot of people, is around 11 years for simple payback and that's.

[00:05:32] Something that people can tolerate. They feel like they'll be in their house for that long or, or the resell value will be, increased enough that they adjust. It's a justifiable investment for them. However, there have been people who don't care about simple payback at all and are just like, I want to go solar.

[00:05:47] We're trying to decarbonize our home. We're doing all this stuff. And there's plenty of those people around. So I think it's a long story short. I think environmental motivations, get people to the presentation and get people to sign

up for the program. They want to learn more about solar in general. And then we just try to make it as accessible as possible.

[00:06:06] And we just, we really try to right size their expectations. So trust goes a long way. I think, being that neutral third party, helping people set their expectations, appropriately and not, not over promising what solar can and will do for their homes. I think it really goes a long way.

[00:06:24] **Nick Hylla:** Yeah. So, the formula for a group purchase program has pretty much persisted since the first one with some modifications. Do you want to talk a bit about, what the program is and why it still works?

[00:06:40] **Peter Murphy:** Yeah. Yeah. I mean, so we started these back in Milwaukee or back in 2013 in Milwaukee. I was a community organizer.

[00:06:49] And, Amy Heart who is now the, I think senior policy director at Sunrun she was working for the city of Milwaukee and she was doing public, free public presentations about it and incentive that the city of Milwaukee was offering to residents who went solar at the time. And, I was the events coordinator.

[00:07:06] And she was like, "Hey, can we do this presentation?" And that's when I said sure. And a bunch of people showed up and they, in response to this, the prospect of going solar, cause it was, it was pretty new and pretty exotic, that the city would be, supporting it in such a way with like a direct, I think it was a direct rebate.

[00:07:21] So she gave this presentation, all these people were like, we should start our own utility. It should be solar powered. And Amy said, well, we can't do that, but we could do this thing called a Solarize program. Which originated, I think in Portland in 2009, and with the help of National Renewable Energy Labs, they put out this Solarize guide book, which is basically like the Bible of these type of programs.

[00:07:42] Other organizations have done them as well, and continue to do them around the country. It's really like a tried and true model, but basically get a bunch of people together, educate them about solar, the more people who go solar at the same time with the, competitively selected solar installer. The lower the price is for everyone.

[00:07:58] So it really like it computes, it's, there's a competitively selected installer. They're offering prices that are lower than what they would offer on

the open market i.e. outside of the program. And then once we reach certain benchmarks or milestones of kilowatt capacity, usually in our programs, fifty, a hundred fifty, two hundred fifty, three hundred fifty kilowatts, there's a price break that applies to everyone and that different installers do it differently. Sometimes it is simply a discount. Other times it is a, it comes in the form of a rebate, at the program's end. But it, it, it works.

[00:08:34] **Nick Hylla:** Yeah. One of the things I think maybe that separates the approach that you and the MREA take to the group purchase programs is really the focus on like developing local partnerships. So, since 2011 worked in the Twin Cities in Minnesota, Highland Park, Michigan, Central Wisconsin. A number of counties there.

[00:08:57] Cook County, Chicago, Sauk County, Wisconsin, Linn County, Iowa, Jackson county, all a bunch of different programs. And in those programs, the first step is really to partner with the local municipality, county, tech college, extension agency, a group that's active in the space. You talk about like the role of the community partners and kind of what. What they do as part of the program.

[00:09:25] **Peter Murphy:** Yeah. Yeah. These partnerships are really critical. They're, they're they're like the, the main indicator of success or failure for a program, or I guess like the degree of success because, failures are very, very few and far between. Yeah, the like county, we, we generally start initiate a program when a unit of government will, somebody's an elected or a staff person will reach out to us and say, "Hey, we want to do one of these programs.

[00:09:54] How do we get started?" And so for the most part, for these programs, we've been reactive to that. But a motivated unit of government can just, I mean, they, their ability to bring both credibility and legitimacy to a program to reach their residents, because there's nobody better at reaching their residents than they are in general.

[00:10:15] Those, those elements go such a long way. And when we've, we've had county partners who have been particularly good at working with their local municipalities and the feedback that we've gotten has been that by doing these programs where we're, involving multiple different units of government at the county level municipal level or multiple counties or municipalities across counties, it leads to other synergies or other, opportunities for teamwork in those rounds as well. So that's a, that's a pretty cool intangible outcome from my perspective. I mean, for example, we've done programs. We started in 2017 to

do a program in Lynn County, Iowa. The following year, we did a program in Johnson County, Iowa, which is they share a border.

[00:11:03] And then we did, we kind of alternated, a couple of years. And then this past year in 2021, we did a program where the two counties work together along with a bunch of their municipalities and it was a really successful, and it's just, that's pretty cool. I think they all, the feedback that we got was that they really enjoyed working together and it, it opened up some doors for them to work together in the future.

[00:11:23] **Nick Hylla:** Yeah, one, benefit to the county is it's of low cost, low effort way to provide a lot of education to local homes and businesses that are interested in solar. And so I can see from their perspective also, why, why they participate. But in many instances they also, are part of a local group that picks the installer.

[00:11:43] So, yeah, I think that's another interesting part of the MREA's program is that and we organize local folks and organize the procurement of the contractor and get all the bids and provide a rubric. But it's really the local representatives that end up selecting the contractor. That's going to serve the program.

[00:12:02] You've helped. How many did you say 50 some, of these groups? But like what are there, what have you noticed, are their real concerns when they're looking to select an installer?

[00:12:18] **Peter Murphy:** That's a good question. I mean, the, I, I think at municipal levels and county levels, a lot of times, they're used to doing procurement processes that are guided by lowest bid and that's, it's pretty cut and dry, like lowest price.

[00:12:32] That's my understanding. Anyway, I could be wrong with that. In many instances, the lowest price proposal does not get picked. And this is because there's a lot to be said. I mean, it's, it's an investment that goes on your roof for 25 plus year. And the warranty life is 25 years, so you want to get quality.

[00:12:52] So a lot of the time in. Evaluating proposals against each other, advisory committee as well, lean toward, the installer that has demonstrated work quality. High quality business practices, a history of quality installations, the level of credentials, the number of people on staff who have, NABCEP credentials or master electrician status or that type of thing, over price.

[00:13:20] And that's not to say that price does not matter because it certainly does it always factors in, but it's been interesting to see, advisory committees have that internal conversation where they're, where they're weighing the value of, a difference in price against, what is perceived to be, maybe, maybe they're right.

[00:13:39] Or maybe they're not, difference in quality of the installer.

[00:13:42] **Nick Hylla:** Yeah, and I imagine the locality to most of the jurisdictions, one of the major motivations of local units of government is economic development employment. So there must be a, a motivation for them to pick local contractors. My guess is looking at the numbers from the group I programs, that seems to be the case that there is a, they favor the local installer.

[00:14:07] Is that been kind of your experience?

[00:14:10] **Peter Murphy:** Yeah, to varying degrees. I mean, we always have a meeting with the advisory committees where we go over the request for proposals ahead of time and they have ample opportunity to offer additional points, to local firms or, at the very least they pretty much always offer additional points to companies that are based within the same state.

[00:14:30] And then proximity kind of varies. So like they might have, we've had this stuff that says, additional points awarded to firms that are located within 100 miles of city hall, that type of thing. So it's it's systematized in the evaluation process and I think, I think, yeah, I mean, there is certainly, a preference for local investment.

[00:14:51] I mean, we talk about, we talked earlier in that rapid fire section about, the \$53 million of total. Yeah. Over, over all of these programs to date, and I think, yeah, the vast majority of that has been into local companies.

[00:15:07] Well, the company selection is, that's, consumer protection, right?

[00:15:12] **Nick Hylla:** Getting the best bid, getting people involved in looking at the bid, bringing transparency among the competing bids, negotiating with the contractor, making sure that the terms are favorable from the customer. But I think the other part that I really have been impressed by with the group buy programs is the role of kind of the customer education in consumer protection.

[00:15:35] Because when you go in or someone that works for the MREA or, a partner goes into give the presentation. They're talking about how solar works

and how to estimate if it's right for you and answering questions about the suitability of their site for solar and their utility bill and what's in the proposal.

[00:15:57] And that really seems to help the customer-- potential customer-- figure out if it is right for them. So in that context, like in the power hour, what are some of the particulars that you think are really important aspects of education for people who are interested in, in going solar?

[00:16:18] **Peter Murphy:** Yeah, that's a good question. In, in people's newsfeeds on social media, they'll get ads that make claims about the availability of incentives that may or may not really exist or financing that may seem really attractive on its face, \$0 down. And then like, and there, there there's certainly the potential that that's a good deal at the end of the day.

[00:16:42] I don't think I can categorically say that it's not, but I think there's enough messaging that's either misleading or false, that sort of like in that sort of happening, in, in people's faces and all these on our devices and our platforms that are vying for our attention. And so like when we are giving a presentation, we try to be as upfront as possible with folks about, what the costs will be and what, what that means in terms of, simple payback and simple payback is of course going to be, it's going to vary.

[00:17:14] And the biggest takeaway from our presentation, I hope, is that everybody's system is going to be different everybody's site is different. And so if you have a suitable site, if you have a south facing roof with good solar access, little shade, little to no shade, or even east and west facing roof with no shade.

[00:17:32] It doesn't hurt to get a site assessment, and then you add a cost estimate and then, for your own, for your own case. Right? So that's, I think that's really helpful to folks. The basics of solar, I think is helpful. We, depending on the utility territory, we will get into more detail or less about, policies like net metering.

[00:17:53] And how that looks, we've, we've had programs, if you're doing a, if the geographical territory is a county, and frequently the more rural you get, the more utility territories there are, but there's frequently, two or more utility territories that have differing net metering policies.

[00:18:10] And so we have to talk about the differences. And I think that helps open people's eyes to the policy implications of their utilities. Maybe, maybe their elected officials as well and their, their leanings and their relationships

with utilities. I'm not sure about that, but like we have gotten in surveys, we've gotten feedback that folks are likely to pay attention to energy policy after having attended one of our presentations.

[00:18:37] **Nick Hylla:** Okay. Yeah. I mean the, the engagement aspect, brings to me top of mind, why we do it? Like why, why are we doing these programs as a mission-based organization that really is working towards a just energy transition that provides benefits to all and cleans electricity system makes it more accessible, transparent, beneficial, local, clean. You know what what's, what's the point here.

[00:19:03] And so I kind of want to start changing a little bit and talk about. Maybe like solar energy diffusion studies, like the way that people adopt solar, because you know what we say with the programs is, proximity and affinity drive consumer adoption. If your neighbor gets a solar electric system, you're more likely to give one.

[00:19:25] And if you are friends or, in a church or with, or go to work with somebody, if you're affiliate. They get a solar system. And so one of the things that I find interesting with the group I program is that what that really means is that happy solar customers make more solar customers. And so how would you say that the kind of program and the power hour has helped to ensure that people are getting what they expect from their solar energy investment?

[00:19:55] Meaning how are we helping make happy solar customers?

[00:19:59] **Peter Murphy:** Yeah, I mean the education upfront, giving people like a clear picture of like, you know what to actually expect. I mean, they come in with preconceived notions about, I'm going to go solar and I'm going to have storage and I'm going to cut ties with my utility.

[00:20:11] That's like, we are clear that that is, that is not going to happen, most likely. I guess, like we could, and it could in some cases, but in the vast majority, 99 plus percent, that's not the case. And so, I think solar customers are happy when their results are close to, or exactly the same as what was predicted on their proposal.

[00:20:35] And I think they can pretty much determine that after a year, right. A year of they're going to have, they're going to be able to look at their proposal and look at their actual bill reduction and energy production on their dashboard if they. If they're using it or whatnot and say, okay, yeah, this was within 3% of what was expected.

[00:20:54] So I think, I mean, primarily, I would say like the, competitive installer selection leads to that. I mean, whether it's like just getting a high quality installer at a price that folks find to be fair. Tends to lead to good outcomes. I mean, there's, there's, there are bad actors in the industry. And these programs, I think help folks rest assured that they are protected against that.

[00:21:20] We also have, like, we specify certain, contract terms and whatnot ahead of time. It's generally no more than 20% down. Whereas in the, in the general solar industry, it's closer, I think to 50% down on contract signing, with lots of exceptions, but that's pretty common.

[00:21:38] And then there, if the installation is not done in a timely manner, we bake in. Production credit from the installer so that the customers in their contracts, their discrete contracts with the installer, they have certain legal footing to pursue damages. If there's, if there's issues, I don't know of cases where we have needed to employ those.

[00:22:01] And that's a testament to the solidity of having an advisory committee. Vetting installers evaluating them against the rubric and whatnot.

[00:22:10] **Nick Hylla:** Yeah. It's also quite a public program for the contractor, so there's a bit of peer pressure and the, the eyes are on the program.

[00:22:19] You didn't say one interesting thing there that I think, maybe a lot of people don't quite get as that, the expectation, at least from the solar energy production that are given to have your system are easy for a person to measure because they're measured in real time, on an available dashboard that you can have on your cell phone.

[00:22:37] And you can see the last minute, the last day, the last week, the whole lifetime. And so if the system isn't performing, as, as sold as it was originally pitched, then the customer, it doesn't take a long to figure that out. That being said, We are a 50 state experiment in energy policy. And in those states to the different utility territories, all have their say of how these things go.

[00:23:03] So you've worked in seven different states on these programs and many utility territories, what are some of the state and utility policies that really help a solar electric system on a home or business, like make a lot of financial sense?

[00:23:19] **Peter Murphy:** Yeah, well, I'm let me begin by saying I do not pretend to be a utility policy expert on any level at all, nor do I pretend to be a policy or incentive expert.

[00:23:32] So like take everything that I say with a grain of salt, please. But like there was a.

[00:23:37] I don't even know where to begin on is that like, I'll start with like a kind of easy one. And it's easy to make it a little bit of a punching bag maybe, but in Iowa they had a state, tax credit that was 50% of the federal tax credit. And it was, it was basically like coupled with the federal tax credit.

[00:24:00] Right, so, when it was federal tax credit was 30% for several years and the Iowa tax credit was 15%, it sweetens, the deal for anybody who's willing, who's interested in going solar. That then stepped down to 26%, then it was 13%, right, for Iowa then. But then, at the end of 2020, right.

[00:24:20] When the, the COVID-19, rescue package was passed, the federal investment tax credit was changed. The Iowa tax year, it was still like coupled with the old, the old legislation, the old policy. And so now, I guess like last year was an issue. It was unclear for a long time. It was, it then went unfunded, I believe.

[00:24:44] And there was a, there was a waiting list and the department of commerce had like some information on their website, that, that led folks to believe that there, this waiting list would be accommodated. And now it's gone and I believe the waiting list basically just went away. There's now like a legislative push to like for the state of Iowa to make good on its commitments.

[00:25:05] Because these policies, like, 15% --on the cost, back from the state on the cost of your array-- they are just, they can be deciding factors for folks, right. That's kind of goes back to like the legitimacy, the conversation about legitimacy. Like when we partner with a municipality or a county, they bring a lot of credibility and legitimacy because people in general believe --say what you will about people's attitudes towards government-- but like in terms of, this is something that's going to be there for a long time, they, they make good on their commitments. I think that's an expectation. And then when the state wipes out a waiting list that people made a pretty significant financial decision for their household, with the understanding that it would come to fruition, it's not the best look.

[00:25:47] Maybe I shouldn't be so mean to Iowa.

[00:25:50] **Nick Hylla:** Positives, and you give me the challenges, this isn't a result of working in so many utility territories, isn't it?

[00:25:57] **Peter Murphy:** I guess. So like, I mean, we see like the really cool stuff, like FEJA, the Future Energy Jobs Act in Illinois, which, funded the SREC market there. And folks were getting, I don't know, like, there's the federal investment tax credit of it was 30% at the time. And it was an additional, like could be 35% off their system as a result of this incentive.

[00:26:21] It was paid up front for 15 years worth of energy production from your solar. And there was a, to contractually, like basically like manifest that there was some stuff that folks found disagreeable in the contracts that they had to sign in order to get the SRECs they're getting in the weeds a little bit, but it led to like a ton of solar activity in Illinois.

[00:26:45] Leading up to 2021 and then the funding ran out in 2021. And prior to that, all of these solar companies had descended on Illinois. There was a ton of market activity, talking to partners there. I just ask them kind of anecdotally, like what if you're scrolling through face. Are you getting a lot of solar ads and they'd be like, yeah, we're getting just inundated with solar messaging from all these companies that we've never even heard of.

[00:27:09] So it leads to all this market activity in 2021, the SRECs went unfunded, until CEJA was passed, which is, sort of like corollary, I guess, to, to FEJA. So it's now funded, but then there was this year of like hardship, I guess, 2020 happens. In our experience at least, 2020, I think in everybody's experience, 2020 was difficult.

[00:27:34] We did fewer programs. We kind of pivoted to offering our presentations digitally instead of in-person as everyone did, of course. But that meant we had lower capacity. And so our overall, like our overall year did not perform as well as we had hoped, of course, but in 2021, our thought was that, there was a lot of pent up demand and things would really improve and take off again.

[00:27:58] But then without the, without the value of those SRECs for, for folks in Illinois and with the potential for that funding to come back in future policy folks, I think largely just kind of sat. They sat out, on, on participation and on purchasing solar. You can, you can find, I see in all these, like, the energy digests and stuff that we get on a daily or weekly basis, like sounds like 2021 was still a really good year for solar deployment across the Midwest and across the country.

[00:28:32] But in terms of our programs in Illinois, specifically, oh, it was, it was a lot tougher, I would say. And now that CEJA has funded these SRECs again, we'll see what happens here in 2022. I'm hoping, everything bounces back, but I guess like extremely long answer or long story short is like, yeah, these, these incentives like make a huge difference and, we'll see simple payback anywhere from like, I don't know.

[00:28:58] Probably in the soonest, residential simple payback, I'm guessing around Midwest is probably like between six and eight years. And then like the longest is like 18 to 20. I'm guessing, depending on the utility tariff.

[00:29:12] **Nick Hylla:** Yeah. There's the core policies that underwrite, right? Like net-metering, net-metering having net metering being able to be credited at the retail rate.

[00:29:21] Even if it's up to your annual production. Well, then they, they fiddle with that to up to your monthly consumption. Good interconnection, good, good like expedited interconnection at a reasonable cost for the system in the utility territory. Third-party financing access to good financing.

[00:29:41] Then there's the solar coaster as they call it. Right. They know one of the tragedies you talked about in the solar coaster is waiting for the next incentive. When the incentive goes away, it's not like it's probably not a good deal. It's just like "Oh, but I hear they're coming back. So I'm going to wait."

[00:29:59] So that is the kind of fits and starts in the market where you're at the whims of the state and a utility policies, which can be kind of a headache. But one that we've been accustomed to riding.

[00:30:13] **Peter Murphy:** Yes. I mean, people do that with, even the technology, right. I'll get an email. I don't know, quarterly from somebody saying like how, you know it should, should I actually do this right now?

[00:30:24] Or is the technology advancing such that I should wait a couple more years for solar modules to be that much more efficient or something like that. And, I don't remember which solar installer representative, likened this to cell phones or computers. Like if you waited on buying a computer since 1994 or something like that, to get the best one, it just like, you'd never get it because they're, they're advancing at a pretty rapid clip.

[00:30:55] So like the sooner you get involved, the sooner you can start lowering your electric bill.

[00:31:00] **Nick Hylla:** That makes me think of an interesting phenomenon that's happening, which is that, and as you're aware, cause we very specifically track the installed cost per watt. And we track that in our programs and follow that very closely by state and nationally.

[00:31:16] Is that installed prices have consistently come down and dramatically come down for solar, making them a much more affordable, accessible, and like contributing to this boom in solar adoption, however, which had contributes in some ways to that "oh, should I wait until they get more affordable or more efficient?" or what have.

[00:31:34] But we find ourselves in an interesting market context where it doesn't seem like things will get cheaper moving forward. And mostly because of supply chain issues. So what are you hearing out there with your ear to the ground?

[00:31:50] **Peter Murphy:** Yeah, that's a, that's like a really tough one. So we've, in just looking at the trends across years, we've seen the price of solar, across all of our programs, year over year, come down from 2013 through was the lowest year I believe. And then in 2020, prices overall rose. That could be its own thing that we can discuss. I think an important caveat is that we haven't done the best job of parsing out which, and how many, what proportion, and to what extent, storage is factoring into that rise in price.

[00:32:32] So, that's something we need to do and we could do it. And we probably will. I've done it for a couple of programs and there can be like a 40 to 60 cent, per watt swing, in like a program aggregate average for the cost per watt. But I think completely irrespective of, of that caveat. The price has, is going to go up and it's gone up in the last year.

[00:32:57] I think it's safe to say that across the board, because we haven't done that much storage. I mean, people are interested in storage, but it's the same, it's the same technology question. Should I wait on storage? And a lot of the messaging-- like some people are doing it obviously-- but a lot of the messaging that they're getting to is that like pricing for storage is going to come down precipitously over the next five years or so.

[00:33:17] **Nick Hylla:** Yeah, the contractors that, all are, they're all dealing with that, trying to figure out their supply chains, there's just basically a global supply chain crunch. There's not a lot of domestically made modules. So, we are, we are curious to see what happens this year.

[00:33:33] But I do want to talk about the contractors. I think one of the things that has impressed me and I know it has impressed you is how amazing. These businesses are, they're so talented that not only on the sales side and their approachability, but just the way that they manage the market and serve customers and the quality of their systems.

[00:33:52] And, and the cool thing about the solar market. It's so many small companies, it's all these like mom and pop shops, local shops, electrical shops that have added solar people that do exclusively solar. There's so many amazingly good people in the industry. And, just that, the experience of working with such good companies is, is something that really gives us hope.

[00:34:13] I wanted to, plug you're working, to basically feature and get some of these companies to the Energy Fair and feature them more broadly as solid solar partners. Are we going to be able to connect with companies at the Fair, are they exhibiting and giving presentations?

[00:34:30] What's, what's happening?

[00:34:32] **Peter Murphy:** Yeah, I, we're, we're going to put together and we haven't launched this yet. So I don't know if it's it's too soon to talk about that. But we're talking about having, some additional perks for Grow Solar, install, grow solar selected installers, installers specifically who have worked with us, in 2020, 2021.

[00:34:51] And basically like, make them more visible to Energy Fair, attendees. So basically as like, recognition for all their hard work, as well as the, the quality kind of baked into the fact of being selected by a local advisory committee.

[00:35:08] **Nick Hylla:** Well, Peter where there's more programs on the horizon. Where do people go to get more information about Grow solar?

[00:35:16] **Peter Murphy:** Yeah, go to Growsolar.org. And, specifically, if you're listening to this and you want to bring a Grow solar program to your community, click the, "get involved button", and there's some more information on how you can get involved. If there's a, if there's a program happening in your community.

[00:35:34] And there's also, the steps to take, to request a program in your community if we don't already have one there. So, we've been mostly reactive, like I said to, municipalities and counties requesting that we come in to offer a

program. We'd love to fill the queue for the rest of the 2022 and 2023 and beyond.

[00:35:52] So we're, actively seeking out new communities. We love to work in some new markets in the coming years.

[00:35:58] **Nick Hylla:** Great, well, thanks. I'm looking forward to that also.

[00:36:01] Peter have good day! Hope you're still doing extremely well.

[00:36:07] **Peter Murphy:** Yes. Just sweating a little bit more. And shine on, as we say.

[00:36:15] **Kyle Galloway:** Hey, Energy Fair friends, Kyle here, Development Coordinator at the MREA. If you were inspired by or interested in what you heard during Peter's interview today, we wanted to let you know that you have a few opportunities to not only learn more, but also connect with some of the MREA's Grow solar staff and installers during the 2022 Energy Fair, just like during the participant education we provide during our Grow solar group buy programs, we will also be hosting solar power hours within our general education workshops at the programming at the fair.

[00:36:47] Peter and the other Grow Solar staff will also be talking about the group buys available in central Wisconsin and across the Midwest. They will also be talking about how you can get involved and bring group buys to your own communities and the information doesn't stop there. We'll be having more workshops at the fair and are thrilled to highlight a few of them for you.

[00:37:03] These will include a panel hosted by the MREA's very own Nick Hylla our Executive Director, and he'll be alongside the executive director of RENEW Wisconsin, Heather Allen, John Delurey of Vote Solar and the 2022 Energy Fair keynote John Farrell of the Institute for Local Self-Reliance. It's going to be a great lineup and you won't want to miss it.

[00:37:23] A few other workshops of note include energy policy and politics in Wisconsin with Jim Boullion Director of Government Affairs at RENEW Wisconsin. How to get solar started in your school district for those interested in bringing solar beyond the homestead with Teresa Radermacher, Co-chair and Project Coordinator of the Monona Grove School District Sustainability Committee, and the many levels of solar plus storage and extended workshop we're offering with Christopher LaForge of Great Northern Solar.

[00:37:52] Extended workshop tickets are now available where you purchase your Energy Fair tickets at [theenergyfair.org / tickets](https://theenergyfair.org/tickets). And don't forget the many Grow solar installers will be attending the fair. There's no better place or time to connect with these installers if solar is on your mind, these installers are competitively selected by the stakeholders of each Grow Solar program.

[00:38:12] So, you know, there's some of the best in the Midwest. We see these installers returning to visit us in Custer each June, because the Energy Fair is the perfect opportunity for them to keep their workforce is trained on the most up-to-date practices and technologies in the industry with our Energy Pro continuing education series.

[00:38:29] And they also come to engage with you, the like-minded, sustainably focused faces behind the powering of the just energy transition. Don't miss out on this chance to connect, learn, and level up your solar knowledge. All of the energy fair exhibitors will be ready to greet you and answer all of your questions in the rolling hills of Custer this summer, June 24th through the 26th.

[00:38:48] And we can't wait to see you there.

[00:38:49] **Nick Hylla:** Thanks again for joining us today. Make sure you subscribe. Leave us to review and for more info on the energy fair, go to the [energy fair.org](https://theenergyfair.org). That's the [energy fair.org](https://theenergyfair.org). And we will see you there.

[00:39:05] **Music:** Outro