

Clean Energy Discussion with EarthKind's Ron Kamen

Transcript

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Introduction: Welcome to Green Building Matters, The original and most popular podcast focused on the green building movement. Your host is Charlie Cichetti, one of the most credentialed experts in the green building industry and one of the few to be honored as a lead fellow. Each week, Charlie welcomes a green building professional from around the globe to share their war stories, career advice and unique insight into how sustainability is shaping the built environment. Settle in, grab a fresh cup of coffee, and get ready to find out why Green Building Matters.

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Charlie: Hi everybody. Welcome to the next episode of the Green Building Matters Podcast. I'm your host, Charlie Cichetti. I'm really excited because today I have even another podcast host., Ron's also the CEO of Earth Energy Consulting. He's been really active in the really greater New York area and beyond when it comes to clean energy, clean tech, renewables and more so just ready to kind of unpack his story and just see where it all started. Ron, how are you doing today?

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Ron: Doing great, Charlie. Thanks so much for having me on the show.

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Charlie: Well, you came recommended. Let's talk about New York, one of my favorite places, even though I'm based in Atlanta, Georgia. I ask all my podcast guests. Ron, take us back. Where did you grow up and go to school?

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Ron: I grew up in a suburb of New York City, actually in Queens then, and lived there until I was 15. We used to go out to Long Island for summers

and then eventually my parents built the place and we moved out there when I was 15, lived there until I was 18, then went to college in upstate New York, in Binghamton, New York. If you're familiar with Binghamton, which I wound up doing my undergraduate there in accounting and a graduate in systems science. Talk about that at some point, it's like but basically it came out of that wound up falling in love, married a woman who had a couple of kids, started my career in Binghamton. I was not very conscious of green stuff at all, really grown up. I wasn't very active socially, politically, that sort of thing, until there was this little war in the Middle East. All of a sudden, I had been the last generation, the last year to register for the draft and then it had gone away for a while. There was no registration, there was no draft. All of a sudden the draft was reinstated and I had four younger brothers and that crack opened up in my consciousness about, wait a second, where are they going? What are they going to be dealing with and why? It was all about oil and the more I looked deeper and realized that fossil fuels control so much of what we do and have such an impact on the economy, the environment, everything else, and I started becoming active. The more active I got, the more I realized it really takes all of us to make the types of changes that we need if we're going to have a future for our kids. And first, I got into energy policy back when utility rates were going up 25% a year, 18% a year, year after year, because they were phasing in the nuclear power plants at the time, if you recall that. I actually worked at the Shoreham Nuclear Power Plant on Long Island as a college student. There had been a security guard. And until that point I had been very supportive of nuclear power. I saw the inside of the ugly underbelly from working there. And then the cost just kept going up. So the \$1,000,000,000 plant went to 2 to 4 at 4.2 as part of an effort to get a consumer cap on it and \$7 billion of cost overruns. Finally, that plant bankrupted what was then the Long Island Lighting Company. They got taken over by the government. They almost bankrupted other utilities, a bunch of nuclear plants. And they realized, "Hey, you know, the problem with all this fossil fuels and with things like nuclear is that they're very cost excessive and cost always increases." Whereas when you take a look at

renewables, the great thing about renewables is that once you build the infrastructure, all you have to do is maintain it and the water flows. You get free electricity, the wind blows, you get free electricity, the sun shines, you get free electricity. And then underneath our feet is this heat that the earth had been absorbing for billions of years. And you go down four or five feet and you get a constant 55 degrees temperature that you can tap into, and all of a sudden you get very cheap heating and cooling, too. The answer to a lot of our economic environmental issues really is energy. I realized that my mission in life was energy, the environment. It's been a fascinating kind of ride. I've really enjoyed all the different things I've been involved with, and it's an exciting time now. We're really at a crucial crux in transitions, but since the time I started, I was first involved in policies working to get good. Policies in place, then rolled out programs that those policies had helped put into place. So things like wind energy and solar energy became the president of the Solar Industries Association in the state, helped get some changes there. But then for the last two decades, I've really been working with property owners, commercial buildings, nonprofits, and the government, figuring out how they can make transitions to clean energy that would have an environmental benefit. But really their main goal was to reduce cost. And the great thing about these technologies now is that you can almost always structure a deal that saves people money, so save money, save the environment and do well for your kids and all of a sudden we all feel good.

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Charlie: That's one of the better ahas I've heard the energy independence, the war, the cost. You got into it for those reasons. Everybody can get into this green movement maybe for different reasons, but I can tell you've now really built a career around it. It's encouraging. I'm a big fan of mentors. Is there anyone that maybe opened some doors along the way or you looked up to?

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Ron: I was lucky enough, 1989, I had been working for about ten years in energy and environmental policy, doing a lot of work. I was in Binghamton. I had been the regional director for about a 90 mile radius outside of Binghamton for a bunch of years for basically ten years. I had decided it was time for me to move on and for some reason, came in contact with the Earth Day people who were building for Earth Day 1990. And that was the 20th anniversary of Earth Day. It wound up being a billion people across the planet who were ultimately getting involved now in Earth Day events. At that point, it was a couple hundred million, but I had New York, New Jersey, Pennsylvania, Delaware, my territories. And I came across a guy who was leading that up, who was the original founder of Earth Day, who's still involved now to this day, and that's a guy named Dennis Hayes. And Dennis, if you take a look at his history, he was recruited. He dropped out of college for a while to run the Earth Day to help organize the Earth Day events. Actually, it is the largest non-religious event on the planet where you have a billion people, one in eight of us participating in Earth Day events. I think it's a tremendous testimony to both Dennis and to all the folks that have worked with them and and to all of us to realize that it's a small planet and we got to have the ability to be able to breathe the air and drink the water and feed our kids and not kill ourselves along the way. And that's what Earth Day is all about. And that's what Dennis Hayes has built his life and career about. I really look up to Dennis. There's a bunch of other folks too, but Dennis was definitely one of my mentors and a great leading example.

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Charlie: That's amazing. Thank you for telling us that story and connecting those dots. Let's talk about the present day and what's keeping you busy yet at birth, kind of your entrepreneurship there 23 years. Tell us a little more about your company, some of your main clientele projects and what's a day like today for you?

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Ron: Thanks so much. Earth is a kind of small boutique consulting company. We look for a client who wants to tap into the opportunity to save a really dramatic amount of money. I mean, everyone's feeling the crunch these days with energy, so we work and we've diversified over the years. We started out working over the years. We started out working originally in energy efficiency. So things like light bulbs. You take a 100 watt light bulb and you change it out with an LED and now all of a sudden you got 80% savings. It's still the same amount of light, but you use 80% less energy efficiency. What a novel concept. Great. The first thing is a guy named Amory Lovins out of Rocky Mountain Institute who said the cheapest energy we don't use. One of the things we do with clients is first, take a look at efficiency. I do that with clients across the board in terms of what they can do to first reduce the amount of energy that they're consuming without compromising their comfort. Energy efficient lighting was one big area and worked with everyone from the World Bank through Military Sealift Command and a host of for profit companies over the years to make stuff happen. Currently doing work with the Troy Housing Authority on looking at efficiency opportunities. In addition to efficiency, you still have to get that energy from somewhere. We talk about energy. That's really three aspects of energy that we work with different clients on. Some of them, some of them, and that's everything from electricity, things like solar, electricity or bilateral deals for wind energy, off takers. But mostly solar is kind of the thing because solar is now so cheap, the prices have come down so dramatically. With all the incentives out there almost anywhere in the world now, you can find the ability to make solar a cost effective opportunity if you have. The ability to put everybody together to make it happen. We bring all the players together. Depending upon whether somebody has capital, doesn't have capital. We look at solar opportunities, sometimes solar with battery storage. When that makes sense, its battery prices are coming down. But first, can we take a look at after efficiency is really how we can get the electricity that people need in a better, cheaper way? That's also carbon reducing. Next, we take a look at the heating and cooling systems in hot water systems, because in many places that can be as

much as two thirds of folks' bills. At the very least, it's a third of most operations, most buildings are in the heating and cooling cost. We take a look at what can happen there. First, on the efficiency side, but now with the clean energy technologies that are out there, you can take things like a central air conditioner first, say, Right, which is really a heat pump. Air conditioner compresses and expands the gas and pumps the excess heat out and gives us cool air into our buildings. Cold climate, air source heat pumps are really air conditioners. They do the same thing during the summer. They do that same compression expansion, give you cool air in the summer, but they also take heat out of the air now down to -15 degrees and provide heat. So you have an air source heat pump that is an air conditioner, but is also a heating source. And that technology has also evolved. So far the cost has come down. So it's almost always cost effective if you're going to replace your air conditioning system or put it in a new air conditioning system, you want to go with a cold climate, air source, heat pump and this part of the world. You want to go with an air source heat pump wherever you are in the world, or if you can do it. And this is where I get really excited, is tapping into ground source heat pumps or geothermal heating and cooling for that aspect. So when you do that, what happens is you're drilling holes and you can build those holes, you can drill those pipes horizontally under a parking lot. If you're building a parking lot or doing a parking lot, you can put it in a pond or a lake if you happen to be near one. Or you could just drill straight down. So even people that live on little postage stamps, like my good friend Scott Sklar in Virginia, who was the president of the Solar Energy Industries Association, he has a little, little plot in Virginia. It's really just a lot. But even on that lot, you can drill straight down under your footprint of your space and provide all the heating, cooling and hot water for that building. And interestingly enough, you can actually do that on a footprint of any building and go up to 25 storeys with all the heating, cooling hot water coming from the heat beneath our feet and geothermal heating and cooling. I work with a number of clients on the geothermal and the air source student. And then the third aspect of energy is transportation. When you take a look at how we move ourselves around and how we get from here

to there, mostly it's fossil fuels, either gas or diesel traditionally. And now the cost of electric vehicles are coming down so far and the incentives are there that it's actually cheaper with the incentives now by an electric vehicle than it is to buy a comparable fossil fuel vehicle. And you're saving as much as 50 to 75% or more on fuel plus maintenance savings because they don't have 2000 moving parts like an internal combustion engine. You've got less than 20 or about 20 moving parts, so you have much less maintenance. No oil changes, no transmission fluid to swipe out and all of a sudden you have a very total cost of ownership opportunity. I work with a number of clients, municipalities and other government entities, and for profits are getting charging stations, looking at the incentives that are out there, how to put the technology together with the incentives and produce a cost effective cost saving opportunity on vehicles as well. I have some nonprofits from schools such as the Oakland French School, one of my favorites who had looked at their 22 buildings and 11 bills and said, we looked at solar, that we have too much shade, we can't do solar, there's too many buildings, it's too costly. We didn't have any money and found a way that they could do it because they had a little field on their property that they weren't using. We put the solar in a field. They didn't pay a dime out of pocket because of these public private partnerships that we help the range. And so with no cost outlay, they allocated a little piece of their building, their space of their buildings, and now they supply 100% of their electricity from their solar field, 100% net. So during the night they're still taken off the grid, but then they're producing excess storage day. People like the Oakwood Friends School have a number of multifamily and mixed use housing developers who are working on new designs. We're incorporating solar, geothermal and ground sources and air. Heat pumps, as well as their charging stations and electric vehicles for their tenants. It's really quite an exciting time.

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Charlie: Charlie, I can tell me your energy is great. I love how you've broken it up into these different segments. My next question, normally, Ron, is what's next? A lot of the stuff some people would say is next, batteries and

micro-grids. You're already doing it. I did have one follow up question on geothermal exchange. Something I'm a fan of is in the simplest of terms, what's been holding that technology back.

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Ron: I think a bunch of different things. One has been that there was a wave of action about 20 years or so ago where people were doing geothermal, but they were using a different technology. It was called a kind of a pump and dump technology. So they would grab water from an aquifer or from wherever else. They'd bring it into a building. They keep the heat out of it, and then they'd have to dump it back in. There was this pump and dump. You'd pump it up and then you dump it, but you get the heat out of it. A lot of those systems work really well, except many people didn't realize that they had to change the filters and that they would get sediment and they'd get other things that built up in the water that they had to keep an eye on and do the maintenance on. And because of that, a lot of the filters broke down. A lot of people didn't realize that they needed to do those filters. And it kind of gave a lot of folks a bad taste about geothermal because they couldn't get it to work. It was a costly thing up front. They were hoping to save so much money on operations, which they would have, but because they missed that maintenance piece, that was a real problem for the industry and it kind of set them back. Right now, most folks are moving to closed loop systems. And so what happens with a closed loop is basically you have the same fluid that's just circulating around that round. You don't have those sentiment issues, you don't have those issues of particulates getting into your stream. It's just really the same fluid going around the ground, much less maintenance, much easier in terms of operations. But it's still costly up front, right? So that's really the problem. Where geothermal becomes most cost effective is when you're doing new construction. If you're doing new construction, you're really out of your mind at this point in our history to not have solar generating or electricity and not have that electricity powering your heating and cooling systems with geothermal, when you look at the economics, it costs you more

upfront. But between the incentives that are out there, the public private partnerships, the ability to save on energy costs going forward, the total lifecycle cost so dramatically less by doing it that way that you can really make a tremendous argument where the next phase comes in is fluctuating energy prices. Gas has traditionally been pretty cheap, so it was hard to compete against natural gas. Traditionally, those costs have now gone up where we see a lot of really cost effective retrofit projects on geothermal now for people who have oil or propane with those costs are really high. It's a dirty fuel. But we also see this movement. I work through a lot of work in Westchester, Westchester County, which is just north of New York City. It's a million people basically just north of New York City. And that county had a moratorium on natural gas because the pipelines basically couldn't handle any more gas into it. And so they had a freeze. All of a sudden one day I had made the announcement that as of two months from now, we're not going to have any more gas applications. And everybody freaked out for a while. And what happened was the developers realized that, wait a second, okay, we can't get gas, so we can't do it the same way we've always been doing it. What can we do? Oh, air source, heat pump, geothermal heat pumps. Oh, we could place it with that. And all between the incentives that are out there, the cash incentives, the tax incentives, actually, we can bring our cost of initial cost of ownership down so it doesn't cost as much more to do this. And then our energy costs are going to be 50 to 70 or 80% cheaper because we have these technologies in place. Yeah, we could do that. And now everyone in Westchester that's doing the construction is incorporating these technologies. So it's really been an interesting thing. The biggest challenge to geothermal, I think at this point, is the fact that drillers who do water wells are not used to geothermal technology. So they haven't moved into that yet. It's kind of a chicken and egg thing because the more demand there is, the more people are going to come into it, the better well, drillers will have, the more mechanized, more standardized stuff. And you can see that starting to happen. For instance, out west, one of my clients, I do some other work where I help people develop markets. So one of my clients is Climate Master, which in the 1950s when their quotas, everyone else was

looking up at Sputnik, they were looking down at the ground and the heat beneath our feet and they started doing geothermal and the United States space company around Oklahoma. And that company finds that when they're doing projects now out in the West and Midwest, because you have all these folks that were drilling for natural gas, all these drillers out there, their costs are so dramatically cheaper than it's been here in the Northeast because they have economies of scale, they have trained workforce, they have the equipment, so their costs per foot are dramatically less. And I think that's what we're going to start to see now as we are making these transitions, we're going to see the economies of scale start to happen. Of them. Also, the welding and the drill costs and the upfront cost are going to go down. The new federal bill brings added incentives to help everyone, whether you're for profit or nonprofit now. So that's going to help geothermal going. And again, I would just urge that anybody that's doing new construction, you should really look at geothermal as the first phase of your heating and cooling system. The incremental costs are so small and the incentives are so great that really you can build for the same price that you would have built a traditional system and your operating costs are going to go down dramatically.

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Charlie: I could have picked any one of these and gone deep on it. Thank you for teaching us more about geothermal. To exchange something I was excited about. What else is exciting you about what's coming at us down the road in this green movement?

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Ron: If you take a look around the world now, everyone in the world is pretty much waking up to the fact that, look, we can't keep going on with fossil fuels. We've got to make this transition. And it's happening in various different ways across the planet, some top down, some bottom up. But really, the technology costs have come down so far. Everything is so great. Solar is now the cheapest source of electricity on the planet. When you take

a look at building a new solar plant versus anything else, solar is the way to go, especially when you have a substantial amount of land that you can use. So first, what we're seeing is this transition from fossil fuels worldwide. Some of it is economic driven, some of it is policy driven. In New York City, for instance, you have a local law that makes you get penalized if you don't take certain steps to reduce your carbon footprints. New York State has the Climate Leadership and Community Protection Act, which makes us move towards 100% clean energy across the board, and that's both for electricity, heating, cooling and transportation, too. We're seeing this transition is coming. And I think the first thing that people need to recognize is, look, it's happening. And whether it happens to me this year, it happens to be next year, within the next couple of years, either I start planning and making this transition or you're getting stuck with penalties because the next piece after the incentives are out there now, the next piece is going to get penalized if you don't take these steps. So far, I think we're seeing this awareness happen across the board that this transition is happening. It's going to happen. A lot of people are saying, oh, well, it's happening. how can they take advantage of it and maximize the benefit for my particular organization and make that happen now? So I think that's one thing that's going to happen. The technology side, we're going to continue to see solar costs continue to decrease dramatically. So it's like almost 20% a year with done. It's pretty incredible that now the cost of a panel electricity used to be the solar panels cost with the main cost involved in doing the solar project. Now the cost of materials is really the least cost. It's the soil, of course, it's the installation costs that are the higher pieces of that piece. So we're going to continue to see the prices of solar come down and more and more adoption of solar across the board will definitely move on heating and cooling with air and ground source heat pumps. I think that's going to become very clearly the most cost effective option, as well as a policy driven piece with a lot of incentives out of it now. But again, people are going to look at the cost if they don't do anything with penalties coming down there. And then, of course, the board electricity, electric vehicles are just like taken off. Right. You see everybody in the system now has one. So led by

Tesla. But now everyone's got electric vehicles. One of the most exciting things, I think, is the Ford F-150 Electric. And the reason for that is that you could take that Ford F-150 or a Nissan Leaf currently, and that's a technology to export energy as well as use energy to charge. So you can now run your house on your Ford F-150. And you could do similarly with a Nissan Leaf. If you have the right hardware and software, you can actually have the average house run off of those electric vehicles for 3 to 5 days. When you take a look at the ability to now have this distributed grid with electric vehicles supplying battery storage, that's going to be a game changer because one of the constraints on the grid is too much energy distributed in different ways. It's set up to be a generation source, not a receiver of energy. The grid has to evolve. One of the things that's going to make that grid evolution possible, I believe, is the distributed storage with our electric vehicles being a main source because we have so many vehicles all around to why wouldn't we want to use that as well as drive with it, use it as an energy source and use that actually as a revenue source. I think that's going to be one of the most exciting things that starts to happen.

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Charlie: It is an exciting future. I've been driving electric cars for ten years, so I love it. I'm buying into everything you're saying. Just a few more questions here. What a fascinating conversation. But Rapid Fire questions to get to know you a little better. What do you think you're best at?

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Ron: I'm best at seeing how to solve issues, especially when you have diverse pieces that need to come together. So my system science background really taught me that there is a connection between things and you just have to look at how to make those connections come together in a way that's synergistically positive. So that one on one, it's always more than two, right? Because it was you and me separate, one plus one is two. But, you know, we come together and we have a positive relationship. We've got something more that goes on there. And I think that the synergistic effects

of bringing together different people in a positive way lifts all boats all at the same time. I'm good at synergies. I'm good at bringing people together and helping everyone achieve their goals and get to a higher place inside.

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Charlie: When it comes to a bucket list, what's one or two things on the bucket list in the adventure travel? Write a book that's on the bucket list.

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Ron: Oh man. So I just did one of my bucket list, which was to go to Iceland and see the northern lights in the Aurora Borealis. My wife and I had an amazing time. Those who haven't gone to Iceland, I highly recommend it. If you go there in a window, you get the northern lights, you go there in the summer. It's beautiful too. But waterfalls, glaciers, ice, caves, lava, volcanoes, amazing. Spas incredibly wonderful and tremendous. So that's that was on our bucket list. And now check that that one done for now, which is great. I think one of the things I'd really like to do is I'd love to get to Asia at some point. I've never been to Asia. I've heard such wonderful things about the people and the beauty there. And I think that's one of the things Asia and Australia and New Zealand. So that's ultimately a place that I want to be able to have a bit.

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Charlie: More exciting than that trip to Iceland too. We're going to link over to your podcast. The last two things here are career advice and then some closing remarks. Is there anything you wish you had known a little earlier in your career?

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Ron: I started off on the environmental policy side, which was definitely key for me and important for all the reasons. But economics is really what drives so many people in so many decisions. I think one of the things that if I had known earlier, I would have made the case for earlier, it took me ten years or so to get into it was the fact that you can save people money with

these technologies. So it's not just saving the world, it's not saving the Earth. The message really is, look, put some money in your pocket, do the right thing and feel good. And so I think economics would be the first thing that I wish I had known a little bit more about earlier and figuring that out.

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Charlie: Good advice. Let's say someone's listening to this podcast. They're getting super inspired by your story. Maybe they even want to line up with clean energy, clean tech, renewables, and what words of encouragement do you have for them if they're just now jumping in?

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Ron: So I would say first find some things that are hands on that are exciting to you, right? Like certain people are excited by numbers. So that's their thing. Other people are excited by hands-on electrical work. Great. That's their thing. Other people are more interested in just making transitions off of fossil fuels, right? So first, figure out what you're most passionate about, what your skills are, or what your abilities are, or what your desires are, and where do you want to be? They do either an internship or get an entry level kind of position. If you're just starting out as a young kid, you can do that. Just really getting mentored about the particular place where you want to be and test yourself out and see if you want to do it. I initially thought I was going to be an accountant. I liked the debits and the credits. I was good at math. I studied accounting and then I interned with an account and I realized that, you know what? I can't sit in this dark room and just do this stuff and count the pennies I needed to be dealing with people. So for me, it was a tremendous experience. I wound up with a little different focus than I thought I was going to have. But the reality is go out and test and see and first identify if you have a particular passion where you think you want to go and test it out and see. And do you know, step by step, you'll get there and really find your passion. And the passion is what drives you when you find your passion, ultimately the money will come so well.

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Charlie: Ron, thank you for your time today. Everybody connect with Ron on LinkedIn and check out the work he's doing, him and his team at Earth Wind Energy Consulting. Check out his podcast. Ron, thanks again, man.

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Ron: Thank you, Charlie. Really appreciate it. Have a great day. Keep up the great work, man.

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Charlie: I just want to say thank you to our loyal listeners. We actually are celebrating over one year here on the Green Building Matters podcast. Me and the entire team, we're stoked and just so glad you continue to listen every Wednesday morning to a new interview with a green building professional here in this industry, or just some pro tips that we want to make sure that you are getting straight from us, straight to you. Thank you for listening to this episode of the Green Building Matters podcast at GBES.com. Our mission is to advance the Green Building movement through best in class education and encouragement. Remember, you can go to [GBES.com/podcast](https://www.gbcs.com/podcast) for any notes and links that we mentioned in today's episode, and you can actually see the other episodes that have already been recorded with our amazing Yes. Please tell your friends about this podcast, tell your colleagues. And if you really enjoyed it, leave a positive review on iTunes. Thank you so much and we'll see you on next week's episode.