

## Importance of Micro-Grids and Regenerative Design with Nancy Clanton Transcript

Charlie ([00:00](#)):

Welcome to green building matters. The podcast that matters for green building professionals learn insight in green buildings. As we interview today's experts in LEED and WELL. We'll learn from their career paths, war stories and all things green because green building matters and now our host and yes, he has every LEED and WELL credential. Here's Charlie Cichetti.

Charlie ([00:33](#)):

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Charlie ([00:58](#)):

Welcome to the next episode of the green building matters podcast. I've got another sustainability professional with us, Nancy Clanton today, coming to us from Colorado. Nancy, how are you doing today?

Nancy ([01:11](#)):

I'm doing great. It's a beautiful day in Colorado.

Charlie ([01:15](#)):

I love it. I can't wait to learn more about that origin and how you've been and have your own firm and entrepreneurship, a PE a LEED fellow. Can't wait to get into your story, but we've got to know a little more of that origin. So where'd you grow up and go to school?

Nancy ([01:30](#)):

Well, I grew up in Duluth, Minnesota, right on Lake Superior and early in my life, I had an opportunity to be part of this education experiment in sixth grade where instead of the standard classroom, four educators came down to our class and said, we'd like to work with everyone individually and see

how far we can really get people to go and sure enough, there were four of us in our classroom that actually went to college level in math in sixth grade. And so it was an opportunity of a lifetime. And so because of that, I went into engineering at the University of Colorado and I guess the best way to put it, do understand how it's like to be, not a traditional engineer because of my gender. I was one of two women in our class and that made it very difficult, but I don't want to give up, so I made the best of it. Yeah. I would highly recommend other women or young girls to go into the sciences.

Charlie ([02:49](#)):

Fantastic. You stuck around Colorado. So did you fall in love with Colorado and that's where you wanted to set up shop or what was that transition as you graduated? What was the lay of the land kind of job wise, career wise?

Nancy ([03:05](#)):

Well, job wise and career wise, I actually ended up going back to Minnesota for a few years to work with an electrical engineering company and then got the opportunity of a lifetime. To come back to Colorado and run applications for a testing lab and also teach at the University of Colorado. So that's how I got back again.

Charlie ([03:29](#)):

I can tell you love to teach. Talk about sustainability, did you have an aha moment? How did you know, okay, there's this thing, green buildings or energy, efficient buildings? How did you know to make a career that is closely related to green buildings?

Nancy ([03:47](#)):

Oh, my aha moment definitely happened during greening of the white house. I was very fortunate to be invited to green in the white house to lead the lighting team, and it was Avery with Rocky Mountain Institute that recommended that I represent the lighting Institute. Going to green in the white house...I mean, I was blown away at the people participating, I feel that it was the first charrette that was ever happening. And to watch these people from Avery Lovens, to Greg Franta to, I mean the best of the best in the design field and Lawrence Berkeley laboratories. And, Oh my goodness. I could not believe the talent there. And I feel that was the first time when my eyes were opened to the possibility of green design, from everything from

landscape, architecture, the glazing, I mean, on and on and that network. We continued that group of people and did two other projects that went to greening of the Grand Canyon, the greening of the military or the Pentagon, and we kept pulling each other in and saying, I was so impressed with what you did. So we grew our network.

Charlie ([05:19](#)):

Well, what a team, first of all, I'm sure some that you've mentioned there probably became mentors and friends and that's kind of the segue to my next question, Who else maybe had that influence or could you call a mentor in your career?

Nancy ([05:35](#)):

Many, many other people were influential, but I'm going to put Greg at the top.

Charlie ([05:42](#)):

Well, It's fantastic. It's important we give those mentors a shout out and I'm sure you've been a mentor to others in your career. So, tell us about Electrical engineering and you got tapped, you went out there and green the white house, you're doing some teaching, but tell us about your firm...how did that come to be?

Nancy ([06:02](#)):

Well, my firm actually started off with working with a professor at the University of Colorado, Dr. Ronald Helms. And he had this little tiny firm that he was trying to get going. He had way too much business, and I was teaching with him at the university of Colorado. So he invited me to join his firm way back in. Oh my goodness. It was probably the late seventies. And we started working on projects that were a hundred percent gala lit or looking at dark sky initiatives for outdoor lighting. Dr. Helms was, progressive in what he did. But soon after we started, he did get an opportunity to go to the University of Kansas and run architectural engineering there. And so he sold me, my firm for just a few hundred bucks.

Nancy ([07:06](#)):

And that was way back. I was depressed at the time, I don't want to lose my mentor. But what happened was that I gave a seminar, continuing education

and there were like four guys in the back row that kept laughing and kind of poking their elbows at each other. I was teaching and I went back at a break. I went, what's going on? And they said every bad example you gave we had at the airport. And he goes, I was trying to figure it out, if we're just going to hire you to come and fix everything at the airport. So that was the launch of my career.

Charlie ([07:46](#)):

Oh, wow. We will always remember those early projects, early clients. That's fantastic. Tell me about some of your proudest achievements though, if you do look back, what else is on the highlight reel?

Nancy ([07:58](#)):

I think some of the proudest achievements is just really understanding the importance of daylighting and bringing back what electric lighting should be. Instead of, as I call it, designed by a reflected ceiling plan in looking at the entire environment and how daylighting electric lighting can match together. I think that the best example of that was when we worked with Rocky Mountain Institute, I'm remodeling the Empire State Building and replacing all the windows to really help in the daylighting and taking out the drop ceilings lately, revisiting all of the loads in it. And we achieved such high expectations in reducing the loading at the empire state building. I would say that that's probably one of the greatest projects we've done. We have worked around the world in designing guidelines, in helping and educating and just bringing back green design to every single project because we should be way beyond net zero energy. We should be. And to bring that through

Charlie ([09:19](#)):

That's fantastic. And the empire state building. So was that the LEED Eb platinum was the ultimate goal, but a big part of that was the window retrofit onsite. Is that right?

Nancy ([09:30](#)):

Yes. The window retrofit on site, which Robert Clark, did. The team we had was just so innovative that we didn't have to take the windows offsite, replace them, bring them back through the terrible New York traffic and then bring them up the elevator. Robert brought his factory to the empire state

building. You did everything in the basement. And that was one of the biggest innovations we did.

Charlie ([09:56](#)):

Well, I love it. A what's keeping you busy today, Nancy

Nancy ([10:00](#)):

What's keeping me busy today is probably a couple of things. One is to reinvent the way our buildings work and how occupants experience buildings. I would love to have a results oriented type of documentation instead of just modeling and doing everything and saying, Oh, we can do this daylight modeling and we're good to go. I would love for designers to come back and actually get feedback a year or two years after they're designed to look at it. So we are, we're working with GSA and post occupancy evaluations and it's fabulous. But the other thing that's keeping me busy is reinventing our buildings. Now with retail stores, maybe declining or hospitality or parking garages, we may meet not need anymore. How do we reinvent them? Those spaces into housing or communities, and to completely become less dependent on the vehicle. The other thing that we're doing is helping cities become ready for autonomous vehicles, because we're not going to need the parking lots. The parking garage like I just mentioned, we're going to convert our cities into more pedestrian oriented and alternative modes of transportation. So we are helping cities and States get ready for that. To become the key word is called smart city, but it's way beyond that. It is cities that offer diversity and opportunity for everyone.

Charlie ([11:48](#)):

I'm inspired by everything you just said. I know here in the pandemic at the time, we're recording this right? A lot Of people may be doing the opposite. They may want to move away from the cities, the big urban settings. And they're saying, what, I'm going to work from home. I don't need to come into the big city, but hopefully that doesn't mean they need a car, right? They can just work from home and find a live work, play community that has what they need near them. But we're starting to see some trends some are trying to get out of these big cities.

Nancy ([11:54](#)):

And it's absolutely true Charlie, that they are. And yet we've got a big problem with affordable housing. And so if we can reinvent our buildings and our office buildings, there's going to be less demand on office buildings. How could we reinvent them and to take really what we know about energy sources into everything we have. Why is it every piece of pavement, a photovoltaic panel we've got miles and miles and miles of pavement that they could all be photovoltaic with looping underneath. I like how you take your cell phone and put on a pad to charge it. We could do that with cars

Charlie ([12:56](#)):

I love it. I love it. What I'm loving so far about our conversation here, Nancy, is you've been doing this for a while, but you're just full of encouragement. It's like, "Hey, we should have done this by now, but we still can do it." And that's what I'm hearing from you. And that's what I think is very optimistic. Alright. So my next question is the favorite one I get to ask someone like you. If you had a crystal ball, where's the green building movement or what's around the corner, what should we be reading up on now?

Nancy ([13:29](#)):

I would really say to look at reducing carbon emissions down to net zero. Even beyond that, and to start regenerative. If we can start looking at how we use every renewable resource we can to do micro grids so that we have.

Nancy ([13:53](#)):

If I lose power my neighbor has some we can all share and to bring the power more to a local level. That way we're going to be more resilient and we're not so dependent on things. That's where I'd like it to go and also to have for everyone and to be able to move around spaces, to have outdoor spaces, inverse spaces, to really improve our human health and not be stuck inside. That's where I'd love the green movement to go good.

New Speaker ([14:28](#)):

Well, I think it's pointing that way. We need to speed it up, but you covered some of the hot topics resiliency and not just net zero net positive, but regeneration, regenerative design and, and you're right. The micro grid. We don't talk about enough. So thank you for hitting on all those. So everyone listening, make sure you're brushing up, reading up, because it's not yet in a LEED rating system, which is a great foundation. Doesn't mean

Charlie ([14:52](#)):

It's not coming soon. So go out there and get this information. Nancy, let's talk a little more about you. So what do you think your specialty or gift is? What are you best at? Wow,

Nancy ([15:02](#)):

That's kind of a tough topic. I think I have an insatiable curiosity that I always want to listen and absorb and understand. I think one of my gifts are I'm not stuck in a pattern. I'm constantly using networks to say, I want to learn more. I want to learn more and experimenting. Understanding failure is part of learning and to totally embrace failure, but then you keep learning and going on. So that's why I think one of my gifts are, and I also loved teaching and to really innovate and mentor younger designers, but to understand their talents too, that we do not have, especially in the IT world.

Charlie ([15:56](#)):

Well to follow ups. That's fantastic so with curiosity, give us the next step. If you're curious about something, do you set a meeting with an expert or somebody or network just to pick their brain? Do you go read a publication? How do you do your next step of research? If there's something you're curious about,

Nancy ([16:17](#)):

I listened and you know what you will notice that many times the best ideas come from the most unexpected sources. It could be from children. It could be from young talent. We all think that you have to, in order to be smart or experienced, you have to be older or be engaged. I've learned just the opposite. I can learn so much from total diverse teamwork, So how do I do it? I have no idea. I'm just listening and observing and listening to my team what they're doing.

Charlie ([16:58](#)):

Oh, it's fantastic. No, I can tell that you're a good listener. One of my favorite entrepreneurs here in Atlanta, Sara Blakely, Spanx first self-made female billionaire. One of my favorite quotes of all time is an idea is most vulnerable in its infancy. And so I think that's why a lot of adults probably don't even want to throw out an idea. They, someone could say, Oh, that's a dumb idea

Charlotte don't do that. And then you bury it. So I think it does kind of validate what you're saying about youth and even children, innocence and idea is most vulnerable in its infancy. But thanks for going there, Nancy, it sounds like you really love to listen. So talking about teaching, so is there a certain topic at this point in your career, you just loved the teach.

Nancy ([17:45](#)):

I do love to teach and topics in my career. Would be more engagement getting again, I think less, or I don't want to say younger people cause that's kind of biased. I would say people with less experience in a particular topic to get them open to what is going on. For instance, put themselves in a situation. And what one question I've asked just recently, because of all of us working at home, I will ask people, how did you select your new work spot, where you are? Is it because if you were to rate acoustics, thermal comfort, best internet, electric lighting, or access to daylight and views, how would you rate all that it, how you picked your work spot and what we've noticed, acoustics always comes up. Number one, but access to views and daylighting number two. And I'm using that information and interviewing people worldwide into what that mean for our new design and how the shape of our buildings function. We buildings are knowing what's important to people in their productivity. So that's kind of where I am teaching, but I just don't want to regurgitate things that well, I know I want to really encourage and inspire new talent to think about where they can go.

Charlie ([19:23](#)):

Thank you. Thank you. A few rapid fire questions here. Do you have any really good rituals or routines? Just good habits, any pro tips you'd share that help you stay on point

Nancy ([19:34](#)):

Number one, go for a good run in the morning before you even start. And I'm at 8,000 feet. So, you really get energized. Yeah, that's number one. And then just really spend time outdoors in between, take breaks, go outside and enjoy your surroundings. Get to know your neighbors, do a lot of supporting of even small children in the neighborhood. That's what I think energizes me because I'm getting up there in age and I want to reduce or eliminate carbon emissions, not for me necessarily, but for my grandchildren and for young children, the ones I want to focus on. So that's my routine.



Charlie ([20:26](#)):

That's a great legacy built in there too. Thank you for sharing. As we get to know each other more Nancy, I'm a fan of the bucket list. Are there one or two items on your bucket list you could share?

Nancy ([20:38](#)):

Yes. My number one is to get my PhD. Absolutely. Number one, my daughter, when she was in seventh grade, came to me and says, mom, I want to be a doctor. How do I get there? And so we discussed it and then I agreed I would become a doctor too well. She's not only done it she's Dartmouth teaching and cardiac anesthesiology and I still have my bachelor of science degree. So I want to do it and I want to do it for her and for me. And then take that to go back and teach. Wow. All right. It's on the bucket list. Yes. We may not be traveling a lot right now, but is there a location you just got to go to or you got to go back to, wow, I'm going to say Australia. I love Australia and the people there and the energy and the love of life and the openness.

Charlie ([21:46](#)):

Make sure you look up LEED fellow, Jason Twill. When you go, he was on the podcast and that was a pretty wild conversation. Alright. Just a couple more. Let's talk about books and reading. I don't know if you'd like to pick up a book in your hands and read it or maybe listen to books on audible, but is there a book or two you'd recommend?

Nancy ([22:01](#)):

Well, one I would recommend it's called *Sustainable nation* by Doug Farr, it really delves into community design in development and I just, I love this. It's kind of a pattern book and how do you do it? And I think Doug is inspirational and how to design communities. So I would put that number one, I'll put the link in the show notes. Anything else? Even non sustainability related. There's another good book that would make a good gift. Oh wow. Well, one is, if you're interested in speaking at all, there's a book called *Made to stick* and it has the acronym success where every single speech should be simple, unexpected, concrete, concise are credible emotional. And I have used that a lot. Every time you do a presentation and it's just, it's very, very successful. And I just love that book.

Nancy ([23:15](#)):

Okay. I'm going to put that in the podcast show notes as well. Fantastic conversation as we come to close two final questions. One is, is there anything you wish you had known earlier in your career? I wish I had known that it's okay to be different and that being not your typical engineer whether it's race or culture or gender. I wish I had known that. It's just because I fully understand of how hard it is to be discriminated against being a woman in engineering. I just kind of accepted it like, Oh, this must be normal girls. Aren't supposed to be engineers. I wish I had known that that's not true because it was very difficult. So that's number one. Number two, I wish I had known and the impact global warming is on everything. We do that design and watching out for the environment. I wish had been inherent from day one in everything that I designed.

Charlie ([24:25](#)):

That's fantastic to just take some mental notes here. So make everybody's paying attention. Cause I told you when we started the podcast, I'm listening, I've been doing this a while and maybe need that spark or that validation. And some are like, gosh, I'm making a career path in this green building movement. And you just shared some really good pro tips. Well, the last thing is, Nancy, if someone listening is just now jumping into this green building movement, do you have any words of encouragement for them?

Nancy ([25:00](#)):

Oh, go for it. Question. Question things the way they've always been done and use your innovation to explore brand new ways of doing it, but also get feedback after you've designed something, go back and talk to people that are using your building.

Nancy ([25:23](#)):

You will hear all the bad stuff that's happening, but that's okay because the way of learning and improving design is by getting critical feedback and keep exploring it and go, would I like to be in this building. Could I work or live in this building constantly asked yourself, is this what I want? Am I getting the results of it? That will be great results for generations to come.

Charlie ([25:53](#)):

Love it. Love it, Nancy. This is fantastic. I've said that like five times. So I just want to say thank you. Thank you for sharing some inspiration, a little more about you and your journey in this green building movement. And just for everyone, I'll put some links to LinkedIn bio in these books. She recommended in the podcast show notes, but this has been Nancy Clanton, CEO at Clanton and associates out in Colorado PE LEED fellow Nancy. Thank you so much.

Nancy ([26:21](#)):

Thank you. Really appreciate it.

Charlie ([26:25](#)):

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 are 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 tips that we want

Speaker 6 ([26:44](#)):

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