

Advanced Carbon Neutral and Net Zero Design with Joe MacDonald “ | Transcript

Welcome to Green Building Matters, the original and most popular podcast focused on the green building movement. Your host is Charlie Cicchetti, 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. So settle in, grab a fresh cup of coffee, and get ready to find out why green building matters.

00:34

Charlie

Hey, everybody. Welcome to the next episode of the Green Building Matters podcast. Every week I get an interview with a green building professional somewhere in the world. And coming to us today from New York, I've got Joe McDonald here. I love his headline on LinkedIn. It says, principal, chief, energy and sustainability officer, net zero, carbon strategist, innovator. I just can't wait to unpack your story. Joe, thanks for being on the podcast today.

00:56

Joe

It's my pleasure, Charlie.

00:58

Charlie

And behind you on your LinkedIn, you've got the UN SDGE. I hope we get to that, too, and talk about your firm and the amazing work that you're doing. Take us back, though. Where'd you grow up? Where'd you end up going to college?

01:11

Joe

I was born in Edmonton, Alberta. I'm Midwest, Canadian Midwest. But at 13, I escaped. I escaped to Vancouver island, where I went to boarding school, very British flavor, and got into, you know, rowing in rugby, enjoyed that very much, athletics, and tried to keep my academics up as well at the same time. And then I got a rowing scholarship to the University of Washington in Seattle. I rode a crew for those four years. I was captain of the lightweight eight.

01:48

Charlie

First, what a beautiful part of the country, the Pacific Northwest. I took my family there a couple of years ago, and I really enjoyed that. Looks like you just went into the states there in Washington state, too. Did you know you wanted to be an architect when you grew up, so to speak, or what guided you towards buildings, architecture and all that?

02:07

Joe

I did. Probably at about six years old, I was already making architectural models at my kitchen table. But then I had University of Washington. I did begin to study architecture, so I got a BA in architecture. And I think that what really did it for me was the University of Washington offered the equivalent of a semester in Rome. So you can imagine a 17 year old in Rome for a semester, and I just fell in love with it. And even to this day, whenever I fly through the EU, I always fly through Rome. Because it's. And stay a couple of days because of so many good memories of it.

02:57

Charlie

I love that. What an early inspiration at that age, too, and that architecture. I love to also ask, just sustainability, when did it first show up on the scene for you? Maybe not even say LEED yet, but just sustainability.

03:11

Joe

There's a much longer story before the sustainability story comes in. I left the University of Washington, and I went to London, and I started my grad studies at the architecture association. I spent a year there under Zaha Hadid. It's a great influence in my career. And then I ended up coming back to the US to finish up on the east coast. I chose the design school at Harvard to finish up. And my first studio instructor there was Rem Koolhaas. You got Zaha and Rem back to back. So that was quite the duo of influencers. And I enjoyed my time at the GSD. It's very competitive, which I'm no stranger to. And then a few short years later, they asked me back on faculty. I joined the faculty at Harvard in 2000. Now, prior to diving into sustainability, one of my roles at Harvard was to choose around the year 2000. That was when all the grad schools were choosing their rendering software. And I was coincidentally curating a show on Ford Motor company at the GSD. And so I had the opportunity to go out to Dearborn, Michigan, to the advanced design lab, and I saw that they were working in an automotive aerospace software called Catia, which is produced by Desoto Systems out of Paris. And so I was fascinated by that software. And so the chair at the time was Toshika Mori, who was a wonderful architect. She and I invited the president of Dassault systems over to Harvard for lunch and asked him for 24 workstations. And so he agreed, and I began teaching the advanced computational design studios at Harvard.

05:23

Joe

My first love in architecture was computational design and the curving, complex forms that were achievable by using this software. Catia was also the inspiration for Frank Gehry's digital project, which we began to use in the office. I founded the firm in 2004, and I left Harvard in 2010. The office was in New York. And then after leaving the design school, I moved over to the University of Pennsylvania. So this is where the sustainability story starts. We have never lost that computational look and feel to the two hour work. But while on faculty at Penn, I began to really drive deep into not only sustainability, but also the drive to net zero. And so there

are a couple of YouTube videos out there where I'm trying to explain the difference between carbon neutrality and net zero. And it also was at the time when the financial world was also exploring these topics under the guise of ESG. It began to drive everything that we did at the office. I can very quickly tell you our core competencies, all of which revolve around sustainability. For example, we design carbon neutral data centers, we design eco resorts. We are doing smart cities. I can tell you the current lists of projects in the office as well. And then we also do green roofs and plant walls, both indoor and outdoor. Those are our core competencies in the office. Right now, we are building a 12,000 square foot passive house in Texas. We are designing a smart city outside of marine Columbia, and we are designing an eco resort. It'll be the first net zero eco resort in the EU, on the island of Mykonos in Greece. And we have designed a 2000 home development in upstate New York, which drives to net zero as well. Phase one of it is about 102 units. It's not a single family residence. It is medium density, two story clusters that we call them clusters. The idea is to move away from the suburban single family home and try to increase density, even though we're in upstate New York.

08:11

Charlie

First amazing project. Some places that I've visited myself, Medellin, for example, the city of eternal spring down there. I've got some friends at Greenloop. They're doing some great work in the region, and just went to Athens, Greece, for the first time. So, hey, you're talking my language here. I love that you didn't mention, just say a program like LEED that I've made a career around. You've said frameworks, you've said just, this is how we need to zoom out and do this work. That's what I've noticed here with your computational work. And I love two amazing schools that you've lectured at and now your frameworks at your firm. Tell us a little more about your company and just your team and where you're guiding things.

08:51

Joe

It's actually, it's a very interesting story about how the team evolved from where

we were to where we are now. We used to be on Hudson street, and we had an office space on Hudson street. At the time, we were a group of about ten, I would say. And so I had eight designers. Of course, we had one design director, but essentially all eight designers were, I'm not going to use the word interchangeable, because they're all wonderful people, and they've all gone on to have wonderful careers, but they were. We had a very. And we still do have a very horizontal structure in the firm. There is no superiority when it comes to design skills or titles or things like that. And that has served us very well. It makes everybody's voice feel heard, which I think is really important in the office. Now, pre Covid, we're at 110 Wall street. And then when Covid hit, of course, everybody went home. And what began to happen was a lot of people decided, well, I'm going to go back home. We're working remotely. And so we kind of had a general disbanding of the team. Of course, there was a bit of a dip in morale. Between me and my chief strategy officer, we decided that we would, as everybody knows, all students go to Arecanut for job postings. What we did was we posted a job on Arkanet, and we said that we are based in. We're looking for multiple computational designers. Our focus is on the drive to net zero.

10:48

Joe

We're based in New York City, but you could be located anywhere in the world. And what that produced was probably about 300 applications in a week, but we did get down to about 15, or were currently sitting at 15. I would say that we'll probably always be a boutique design firm. I like that number very much. But we're located all around the world. The EU, Vienna, Athens, Singapore, India, Pakistan. I was reading on LinkedIn one day, how do you run efficiently, a remote workforce? And one of the key points was to have regular Zoom meetings when everybody could attend. What we decided to do was operate on eastern time, my time zone, and Monday, Wednesday, Friday, we have team meetings at 09:30 a.m. My time. So whatever time that may be for my staff, it's just a 30, 45 minutes check in as to where you're at. Then we all have on our laptops, desktops, we have WhatsApp open, which means that you can drop a zoom link in there. If you need

to have an immediate chat, you can drop design decks in there for redlining. Actually, we work faster in using this model than we did in person.

12:25

Charlie

I didn't know we'd get pro tips on how to run a global firm. So that's a nice Joe. I love it. My sustainability consulting firm, we also went remote all across the US, a couple international employees and similar. I just love what I'm hearing here. Let's do one more look back, though. Just what's on the highlight reel so far in your career or any other personal achievements too? I always like to give that permission. What's on the highlight reel?

12:51

Joe

I think that what we're learning is that after 20 years of being in the business, we're now designing projects where we're able to raise capital because of our sustainability credentials. We're not taking on the architect developer role, but we are much more involved in the decision making process when it comes to design. We're raising capital to build our own design projects. I think that's a natural evolution for some firms. When I think of many of my colleagues, they're doing similar things. The Mykonos eco resort that will be run by Angelos out of Athens. And that is a property that he spotted. And it actually is one of the last approved plots of land on Mykonos. So that's kind of where we're headed. And the same is true for the project in upstate New York, where we found financing for that as well. I think that the evolution of the green building movement is going to continue. I attend so many conferences and I speak at so many of these engagements. So, for example, last year in 2023, I was in Dubai three times. I was at COP 28 because I'm a climate advocate. I was in Bangkok, I was in San Francisco, I was in Dallas. And I just got back from Zagreb, Croatia, giving a talk on the IRA, the Inflation Reduction act, and four clean technologies that are driving the data center boom because of AI and ML and the Internet. For example, talking about SMRS, small modular reactors, talking about hydro pump storage, talking about fuel cells, hydrogen fuel cells and what are geothermal as well. We're trying to

stay on the cutting edge of these new technologies where we are working with federal funding, with the IRA, and it is available. So we're trying to be as progressive as possible.

15:24

Charlie

It sounds like you really help put on that real estate hat, not just the design hat. You're trying to help get these deals done. And there is money out there for some of all this sustainability work. I'm excited to hear that. Not just here in the US, but you're finding money for the deals overseas too. I love that. And that's probably just a place you've had to evolve. Maybe that's just almost expected. Hey, let's get this deal done. We don't want to just do some mockups and renderings and not get financed. Let's do our part to make sure this goes all the way through. That's what I'm hearing from you here. But you kind of hit on what's next.

15:56

Charlie

I love to ask a greenbuilder professional like you, what else are you excited about that you're reading up on that maybe we should be reading up on too.

16:04

Joe

It's interesting because we are international and we build internationally. For example, we have a lot of experience building in Scandinavia. So if we were to compare the US policies, now we're into policy talk when we come to climate change. So if we were to compare US policy versus EU policy, of course the EU follows something called the EU directive, which is a much more progressive policy when it comes to scope three emissions, for example, or carbon emissions. We follow the EU directive in the office on all our projects. Even if we're building in the US, for example, we're doing some office to residential conversions in the financial district here in New York, local law 97, which I also teach at the building exchange. New York City has got some of the most stringent policies and so we're quite pleased with that. That's coming out of the mayor's office. New Jersey is

very progressive and of course California is very progressive as well. What am I saying? I'm saying that the future looks very bright from a policy point of view. And it's interesting. The majority of my staff are all millennials or Gen zs. And so not only are they quick to pick up on these topics, but of course they absorb information so quickly and then they deliver the goods so quickly. I'm very proud of my team.

17:53

Charlie

Really embraced that technology. And you mentioned AI and machine learning. And one thing I've noticed as a fellow entrepreneur and a business owner is some people ask me in the United States, depending on who's the president, does it shift a lot of our sustainability work? And I argue, for Republicans in office it's pro business, better tax set up that helps business owners. But over here, Democrats in office, sure, we've got some great policy, the IRA, like you said, but set that aside. There's so many state mandates, like you mentioned city mandates and don't forget corporate mandates. Who is really driving this if it's in their corporate sustainability policy. I would argue, hey, so much is baked in as maybe an administration shift. We still have a lot of good mandates that are going to keep this work going.

18:37

Charlie

Would you agree with most of that?

18:39

Joe

I absolutely would agree. When we look at some of the top developers around the country. Heinz is a great example. Their policies are. Heinz is a global real estate developer, but their policies are very progressive, you know, so they're leading the way. So I can list a dozen Brookfield properties, Silverstein, these are organizations that take this topic of building green really seriously, and they're doing a great job.

And they're also, remember, they're also pumping their own capital into these projects, which they didn't necessarily have to do. I really admire them.

19:28

Charlie

Well said. Let's do some rapid fire questions. I'm loving our conversation here, Joe. Let's get to know you a little better. What would you say is your specialty or gift?

19:37

Joe

Great question. Patience, creativity, curiosity, and grit.

19:41

Charlie

I would say you need a lot of that as an entrepreneur, too. So patience, though, let's unpack it one more time. Do you really think before you speak, do you count? Just how have you built that muscle over the years?

19:53

Joe

That's a great question. Just a hit pause when you're on a Zoom call. There's a great saying that I will share with you. Does it need to be said? Does it need to be said by me? Does it need to be said by me now? So those are words I live by.

20:11

Charlie

Oh, beautiful. A lot of wisdom there. I love that. I like to ask my podcast guests about either good habits or routines or rituals. What helps you stay on point, Joe?

20:20

Joe

Yeah, I would say morning meditations. I've got a great dog, Levi. He's a boxer. So he, you know, he and I, we have our morning evening walks. I try to work out

every evening because the majority of my staff work by 4:00 or 05:00 p.m. My time, that's their day is over. I try to allow, you know, an hour or so for myself, for hitting the gym. I think physical activity is really important.

20:50

Charlie

So important. How about a bucket list? As you and I get to know each other a little better, I'm a fan of a bucket list. Not everybody has one, but is there any adventure or travel or do you want to write a book? What's on the bucket list?

21:03

Joe

I am a bucket list fan like you, and it is travel. I've been fortunate enough, both in business and in leisure, to have traveled to many places. The one place I have not traveled to is Patagonia, which would be on my bucket list.

21:26

Charlie

Oh, man. Love it. You know, as we think about books, it doesn't have to be about buildings. But is there a book you'd recommend even when you go back to it?

21:35

Joe

It's interesting. Another side, another personal side of mine is I'm a contemporary art collector, so there's a particular sliver of time that I'm really interested in. And this, when I did the Ford Motor exhibit at GSD, it's the sliver of time between 1968 and 1972, which was a really great era for a lot of things. For film, for fashion, for cars. It was just a great sliver of time. And so I collect a lot of first edition artwork from that period of time. So is there a book? Yes, there's a book called sixties unplugged that I find reminds me and takes me back and educates me on that period of time. If you're looking for a book on climate change or sustainability, I probably. There are so many sitting on my desk right now that I would be hard pressed to say.

22:38

Charlie

A link to the book there, sixties unplugged for sure, in our podcast show notes. Just a couple more questions as we start to wind down. Joe, just as you look back on your career, is there any career advice you wish you'd have heard earlier?

22:51

Joe

Yeah, that's a great question. I think that when I graduated from grad school, I wished that I, of course, had mentors throughout my education, but I wish I had the self awareness and the confidence to know that pursuing a passion was intuitively the right thing to do. And so that passion would have been private practice. Or at least what I actually did do was while on faculty a few years later, I began to build a series of clientless projects. We did a lot of product design, tables, benches. We did a giant light fixture for Audi out in Santa Monica. So there were really exploratory forms that had function. And it's very interesting. Those projects got published and people saw those projects, and that launched my career. For example, I think one of the most popular projects of urban a and o that people may know of is the water planet in California. Academy of Sciences by Renzo Piano. It's on the lower level. It's a children's aquarium. The thick design was the overall design of the Steinhart Aquarium, which included the water planet. They saw that work, I believe it was interior design, and they invited me up to speak and it turned out to be a great collaboration and it kicked off urban a and, oh.

24:37

Charlie

I'm hearing, put yourself out there, put your work out there. Even when it comes to that kind of design, who knows what doors it will open for you? Last question, Joe. Gosh, what a fascinating conversation. Say someone listening is just now jumping into the green building movement. A movement that's been good to you. It's been good to me. Maybe they're young professionals. Maybe they're making a

career change. But do you have any words of encouragement if they're just now jumping into the green building movement?

25:03

Joe

It's never too late to jump into this. Let's say that you're an undergrad, you just finished school. Do you need more education? Think hard about that. Maybe what you need is a little bit of experience. Like testing the waters before you sign up for that graduate degree. And then also even mid-career folks who are fascinated by the green building movement align themselves with organizations. And there are many. All you have to do is be active on LinkedIn, and you will find many newsletters, many green job postings. Just simply get involved. And I've seen many colleagues, both young people and also mid-career people, make this switch, and they're so thrilled that they did because the net of making that switch is you do end up making an impact into this space. I encourage everybody who's interested to really take a crack at it.

26:19

Charlie

Amazing words of encouragement. I think everyone's going to be inspired by your story when everybody listens to this. Listen to it twice. It was that good today. Joe, thank you so much for being on the Green Building Matters podcast. I truly appreciate it.

26:32

Joe

I appreciate it, too. Charlie. Thanks so much.

26:36

Speaker 4

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