Healthy Homes First: Passive House, Air Quality & the Future of Residential Green Building with Paul Kealey | Transcript

00:02
Speaker 1
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, Green matters. Hey, everybody. Welcome to the next episode of the Green Building Matters podcast. Today we're going to be talking about green homes. We're going to talk about net zero, passive house timber. I just love it.

00:45
Speaker 1
You know, sometimes we need to bring someone on that really understands the residential side of the green building movement. So I've got Paul with us today. He's up in Ottawa, Canada. Paul, how you doing today?

00:55
Speaker 2
Great, Charlie. It's a great time of year in the home building world. Is as the home construction season is just about to kick off.

01:05
Speaker 1
All right, we're on thawing and now it's time to get going. Spring is here, right? Let's go. Love it.

01:12
Speaker 2
That's right. We need to be firing on all cylinders.

01:15
Speaker 1
So we're going to talk about your journey, we're going to talk about these amazing homes and just how you go about it. But take us back. So for our podcast listeners, hey, where'd you grow up? Where'd you go to school?

01:26
Speaker 2
I'm from Ottawa, Ontario. I went to university out In Eastern Canada, St. Francis Xavier. Took a science degree, ended up with a teaching diploma as well, which is ultimately where I started my professional career as a teacher. But in starting out a professional career at a young age, thought it was a great time for me to go out and buy a house. Looked at all the homes out on the market and I just felt that there was a great opportunity for a healthy home business. At the time. I, you know, I've been in and out of business before I got into teaching.

02:04
Speaker 2
Both my parents are self employed, but I have a business mindset in me and I just thought there was really a greater opportunity to contribute to the world providing healthy homes because it's the one single biggest part that's missing in the home building industry. Our building codes are there to protect us from a roof falling down over our head. But, but we spend 90% of our lives indoors. So an unhealthy home is ultimately an environment that could either be enhancing our health or taking away from our health. And it's become even more important in the modern building world as builders all over the place are trying to do things more energy efficiently. And how is that done? Simply putting more insulation into the walls, the roof system, making our weather tight shell a little bit larger, more energy efficient.

03:02
Speaker 2
Hold the heat inside the home in the wintertime and keep the heat outside of the home in the summertime is the goal. But when we start building more high performance homes and when codes start to change or evolve to be more energy efficient, friendly, there's some big problems that, that houses have to be designed against.

03:25
Speaker 1
Wow, so you saw that early. You had the entrepreneurial parents there. I kind of also like to follow up with my guests, Paul, and ask about just sustainability though. Was it, was it baked into where you grew up? Did you like to go to nature? I don't know. What, what was your early view on sustainability?

03:42
Speaker 2
Well, I, I've always been driven to a, a sustainable body in the sense of a healthy

body. And which led me to the science degree that I ended up pursuing in physical education. You know, growing up I, I was involved in lots of sports and I always felt the healthiest when I was in the best shape. So that led me to, to pursue that, you know, that opportunity to become an education, health education teacher. So there's a big sustainability mindset that I had just from a healthy body perspective. And I think that's really what made me realize there's a bigger part to this equation. Right. We can't ultimately be healthy unless we are, we're in a healthy environment. We need to be able to be in an environment that we can control. And, and houses aren't designed to have optimal healthy indoor air quality.

04:43
Speaker 2
So goes back to when I was teaching. You know, I had the other realization. I remember here I am full time profession, teaching kids ultimately how to live healthy lives. But we can't live healthy unless we're in a healthy environment at home. So I felt that really, that the overall sustainability theme was carrying this love for personal health into the actual home and really felt that there was a, like a huge opportunity. The healthy home world is very lacking, starting to become better. But there's a lot, there's a big educational and awareness that everyone has to go through when looking at building their own home. And we're where I see myself fitting into this marketplace and ultimately my business is making healthy homes accessible to everyone across North America. Is, is the ultimate goal, my personal goal and our company's goal as well.

05:50
Speaker 1
I love that. Yeah, and healthy green decarbonization, but they all really go hand in hand. I know. We'll talk more about that. Just two more look backs. I just love to get this good foundation of your journey, your career. Paul, any mentors along the way? For some of my guests, a mentor, someone they read their material, they see them on stage, sometimes it's someone that challenges them, opens a door. You know, it could be someone a little close to you, family member. Any mentors along the way?

06:19
Speaker 2
Well, I think you know, instead of mentor, like when I think of a mentor, you know, someone who has provided some good direction right. And, and some good realizations to follow and to improve on, ultimately take an idea and make the most of it. And I think instead of, when I think of mentors instead of one individual person or from a people perspective for myself, it was the realization that there is, there's a lack of healthy homes in the world. So when I think of a

mentor experience, I think of that motivational experience that I had with the realization that healthy homes are not communicated about much in the home building world and really felt there was a great opportunity to contribute at that level.

07:21
Speaker 2
So no one in particular, more of just a realization that there's something missing that I can be a part of and I can make it and I can make a difference. I think personally, you know, I've been a purpose driven person for most of my life and really the motivation to contribute and offer a lot of value to the home building world, providing that missing health component is I think was what that experience was all about for me.

07:50
Speaker 1
Okay, now I love how you're saying health first, then these other best practices last kind of look back. I like to ask about achievements. Hey, what's on the highlight reel? What are some of your proudest achievements so far?

08:03
Speaker 2
Well, proudest achievement for our company is as we've been starting to do our own developments, but on a high note. It's been having the ability to be a part of many different marketplaces. So we don't just operate out of Ottawa, we supply ultimately all of North America with a proven, certifiable passive house. So putting some business models in place where we have all the logistics taken care of and the supply chain taken care of to provide an affordable, healthy home for people that is accessible to everyone across North America. Ultimately any individual or any family with a reasonable budget to build should be afforded, should, should be able to build a healthy home. And our, the biggest healthy home, like a particular house that we provide as a company is a type of home called a passive house.

09:06
Speaker 2
And when I went through the education process, what are the, what are all the different construction models out there? How can. I thought it was very important to follow an actual construction model so that we are able to provide a proven result and our customers are able to provide something that's proven to work is part of this and part. And when I stumbled across passive house and they learned that it is ultimately the most healthy home you can build and the realization that the healthier we actually make a home, the more energy efficient

it becomes. If I had to I guess signal it down to one greatest achievement, it would be that it would be the realization that the healthier we make a home, the more energy efficient the home is made as well. And this type of house is ultimately a passive home.

09:59
Speaker 2
A passive house is the only construction model in the world that takes moisture management part of its construction model. So where we, when we're building a home where we can, where it has the intended purpose and the result of managing moisture. Ultimately what we're talking about here is vapor open assemblies, weathertight shells for buildings that have the ability to dissipate moisture and dry. And when we can keep a weather tight shell dry, when we can keep our homes dry within the envelope, the weather tight shell of the home itself, then it's theoretically a house that's going to last an infinite amount of time. Because moisture is the number one enemy to deterioration. But moisture is also the number one enemy to health. And this is the biggest realization I think for anyone listening that is researching what type of house they want to build.

10:57
Speaker 2
So we want to obviously connect with every. I think everyone's got a dream of building that forever home or that best house that the people been dreaming about their whole lives. And we want to make it very clear to people that the missing component is the health component in the custom home building world. And the realization that there is an actual construction model existed was great because that was a, that became a realization. We didn't have to develop our own system. We simply have to take a construction model that was already in place and meet all those requirements, but make it affordable. So the affordability aspect was the single greatest thing that we try to focus on here as a company so that anyone can afford it. Because in sustainability, if we can't make it affordable, it's. It's not going to be very sustainable.

11:56
Speaker 1
But man, you're speaking my language. Okay, so passive house. Let's demystify a couple things for our listeners. Some may have been taught buildings and homes need to breathe. But here we have this sealed building. You know, you're doing blower door tests and you want to bring in fresh air mechanically. Right. So, so let us know the difference there. I mean, have we had a mindset shift and now it's actually better to really have an airtight home and then bring in that

fresh air as you need it instead of letting it, oh, you need a vent for this. I don't know what, how do we shift that mindset?

12:34
Speaker 2
That's correct. You know, the traditional mindset around air has always been don't make the house tight. It's reasonable to build a house that is not airtight and is. Is experiencing a relative degree of air leakage because that is the fresh air and it's going to always maintain a good living environment in the home. But when we rely on outside air, it's important for people to understand that it's impossible to guarantee an indoor healthy air quality. The only way we can guarantee our health from an air quality perspective is building airtight. And what that does is it keeps all those exterior toxins outside and it prevents a rush of air into the home through all the gaps and the cracks in the system that is also most likely bringing in a lot of contaminants with it. So you want to airtight.

13:37
Speaker 2
And when we airtight now, we have an environment that we can control, which is done through a fresh air machine. You know, from a carbon dioxide perspective, or what I like to refer to as a highly oxygenated environment, is only possible if we do all of our ventilation through an independent mechanical system. And that mechanical system, of course, designed to bring in ample amount of fresh air into the home. Also a fresh air system that is there for humidity management. So we need to keep our carbon dioxide levels on the inside of the home as low as possible. It's important to note that outside air is approximately 400 parts per million. But inside air in most traditional homes is known to be somewhere between a thousand to two thousand parts per million.

14:28
Speaker 2
And when you get it when you get up to carbon dioxide level at these high concentrations, it impacts, it puts a lot of stress on the body essentially. So keep those toxins out. Outside air, you know, is only ideal 20 to 25% of the time in most areas of North America. It's either too cold, too hot, too dry, too wet. And if the outside air is ideal, we can naturally ventilate, of course through the windows. But it is not ideal most of the time, which is another reason to emphasize airtight enclosure and a fresh air system that's there to keep the.

15:07
Speaker 1
Air quality and healthy and all that makes sense. And as the EPA says, we spend 90% of our lives indoors, so we got to get this right. All right, well that's good.

Segue to present day. Paul, tell us about ecobuilt. Tell us about your business and what kind of projects you're working on. Love to hear more about it.

15:27
Speaker 2
For sure. We have a lot of interesting projects coming up locally for us. So we are getting into the development world as our company. We are planning a number of multifamily projects. We have a six unit row home or townhouse project where we're excited to start this year. We have a seven story multifamily mixed use building which is going to contain approximately 70 apartments and a dozen commercial spaces. And we also have a, an urban rental building, a small sixplex that is going to be there as a new building on an already existing developed property, essentially getting rid of the old and installing the new. So that is really exciting as I said, to look forward to. But also we are in, we're in over 35 US states now. We are, we're in four Canadian provinces where we have multiple projects.

16:30
Speaker 2
So really being able to supply all climate zones across North America. We have houses as far south as Georgia and right up to Alaska from a United States point of view. And in Canada we are in Alberta, New Brunswick, Nova Scotia, Ontario, Quebec, Prince Edward island also. So a lot going on and we love it, you know, because affordable passive house regardless of someone's in California or Alaska. We have a model in place where our advertised pricing includes delivery to all locations across North America. So we're just excited to be here providing people with opportunities to build housing at an affordable price point.

17:19
Speaker 1
It's exciting and that's pretty big. And yeah, you had mentioned even one down here in Georgia, south of Atlanta. So, so are you providing the plans, lining up the materials where you project Manage the whole thing. What, what scopes do you start and stop with?

17:34
Speaker 2
Well, we put everything into a weathertight shell package which we prefabricate for customers. We prefabricate the exterior wall system, the roof system, the floor systems, if there's any of those. We also supply all the material for the interior partitions. So as soon as our prefabricated weather tight shell is installed, then there is no specialized labor component. We send a supervisor

down to a property, wherever it's located that's there to work with a local carpentry team or a local general contractor so that there's no specialized labor required for putting the system together. But most houses up to 2,000 to 3,000 square feet, even the prefab system will be installed anywhere from three to six days.

18:24
Speaker 2
Another three to six days is required by the local carpentry team to build those interior walls and install the windows and doors that come prepared, where those openings are prepared and that removes all the specialized labor components. So this is where we provide the greatest value. We include delivery, we include design, we include engineer stamp. Regardless of where anyone is located, we include also acting as our customers, building consultant or building advisor. So a lot of our customers are able to save expensive project management and general contracting costs by having us there as their site. At a technical level, even though outside of our prefab package everything is conventional. Exterior finishes, interior finishes are the same, mechanicals are all conventional scope of works that are able to use local tradespeople and keep within their existing models.

19:26
Speaker 2
We just try and simplify that whole process with an affordable prefab package and take care of all the design components also, which does add a lot of cost to some projects.

19:39
Speaker 1
Right. This makes sense to our listeners. We'll put a link to the ecobuilt website. But you know, I'm looking at it now and it just reminds me of a great story. I'll leave you with this anecdote you can use in the future too. Is Jimmy Carter, President Carter from Georgia, South Georgia Farm, peanut farm. And back when his family was getting a house there, you could order from the Sears catalog and you had three options. The plans, the kit shipped to you on a train to South Georgia. Or you could have someone bring the kit and install it. So they, his family ordered the kit, came down on a train and then he got a bunch of people in the community. His, his dad did and they stood up that house.

20:18
Speaker 1
So just reminds me of the Jimmy Carter craftsman style home that he ordered out of this year's. Catalog. So there you go. That's pretty flower.

20:25
Speaker 2
I love it. Yeah. You know this has been a build approach for a lot of years obviously. And where there's a will, there's a way. And you know, I think there's a lot of reason for people to get excited about their home. So if that home isn't provided by a local contractor then you know, go out and find it, partner with the right company and, and get her done as they say.

20:51
Speaker 1
Yeah, we need to hang out because you literally said my number one quote or saying I, I appreciate in life is where there's a will, there's a way. So pretty impressed there. All right, let's keep going. So Paul, talk about your role though. I mean you're a co founder here. You're growing this business. What's a day in the life of Paul look like? What do you work on?

21:12
Speaker 2
Well, I'm part of the initial contact team so we do have a marketing team here that takes care of most initial communications. But I'm part of our sales team and here at a marketing level as well. So we do a lot of trademark videos. We have a YouTube channel, Instagram channel that is all education and awareness based. We want people to be aware of a passive home, realize all the energy savings and the health benefits that come with the house and make it accessible. Whether we provide the kit or there's a local company that can take care of that for customers, either scenarios are good. We really focus on the affordability component and we're able to provide a package that allows customers to build more affordable than most of their local options lots of the time.

22:06
Speaker 2
But we're here to promote and really help change the world from a healthy home perspective. And I think the type of houses that we're talking about here, they're going to become standard homes when the net zero codes come into play, which might still be another 10 to 15 years, but net zero codes are going to demand more passive buildings. These are future protected buildings that will become the norm at some point, but no reason not to do it today because it sometimes is actually the most affordable house that you can live in. A lot of our customers are coming off of propane and dealing with a four to $5,000 propane bill every year. And moving into a building and moving into a passive home is like throwing away that propane bill.

22:58
Speaker 2
So even though the houses do cost they do have thicker walls, more insulation. A passive home will typically come with an incremental cost, but it's limited. With a smart system between 5 to 10%. But that 5 to 10% incremental cost is instantly offset with the savings in utilities most of the time, which simply enough is getting rid of that propane bill or gas bill.

23:26
Speaker 1
Wow. I believe in that vision. I agree. I've been around green buildings a long time. Now I'm building a tech startup and AI tool for architects and developers. I agree with it, but you've got a mission driven company here. Before we predict the future, I want to ask you a question. Okay. Some places we're not allowed to say ESG and some places we say green. Some places we say healthy or decarbonization or resiliency. So I don't know, what are you seeing out there? I'm really excited that you said healthy homes first, affordable homes. And then it's almost implied that of course we're going to nail it with energy efficiency. I mean come on, we got to, right? So that's how you present it to me and I like that.

24:06
Speaker 1
But what do you find with the word decarbonization or is it showing up in your region, the word resiliency? Are these two new umbrellas where we can put all this work under or. I don't know, what are you seeing?

24:17
Speaker 2
Yeah, I think carbon, well, carbon free is the goal from a, from an operational perspective. And we also need to minimize our carbon footprint. So embodied carbon, which is the manufactured carbon, the transportation, all the carbon that goes into the production and delivery of the home is another important part of the carbon element. But that it's very simple to get off of carbon based fuels by using a house that doesn't demand any petroleum based fuels, which is your electrically operated home. Now when you say completely electrically operated though most, most places in the States or Canada we think dollar value, right? We think a high price tag for that house. But an electrically operated passive house that uses a heat pump, an air source heat pump system.

25:11
Speaker 2

The end result for all heating and cooling cost is less than $250 a year pretty much everywhere. Some houses will have more air conditioning, other houses will have more heating. But those, the overarching terminology. I think resiliency is a big, is a really great word because there's a number of components to the resiliency language. Resil. I, I, I say resilience against health. Right? So a house that protects your health or is resilient to those negative health aspects, resilience to weather people are Experiencing tornadoes in areas where they never had tornadoes before five to six years ago and moving into the history. So resilient against weather patterns. So houses need to be built stronger, resilient against energy demand. So we talked about carbon, but doesn't matter what source of fuel is used, energy cost is going to continue to skyrocket.

26:11
Speaker 2
The word, one of the overarching words that I like to include there is conservation. I think conservation is a good guiding principle, is a good purpose word for the future world and GDP is part of the equation. You know, we're using our resources or we need to be focusing on renewables, of course, but we're using our non renewable resources at a rate where we simply aren't going to continue to be doing the way that we are living and stripping the world of the, of the non renewables. So conservation, we need to conserve energy, we need to conserve our health, we need to conserve materials. And that is a good, I think word that we need to use moving forward. Our energy factories population is skyrocketing. Right. We need to build the energy factories smaller, not larger.

27:11
Speaker 2
And we can build them smaller or at least keep them the same size if we first focus on conserving the energy.

27:19
Speaker 1
Yeah. And then more micro grids. You're right. Renewables. One time, a long time ago when I was really early in my green building journey, I was in Golden Colorado at nrel, the National Renewable Energy Lab where they test solar panels, test wind turbines, lead platinum building and they say, hey, make sure you save as much energy as possible because then you don't need as many solar panels. It's like, oh yeah, that kind of makes sense. Right? You got to always remember that first. So you've done that here. You know, I think you're putting together these amazing passive house ready kits and you know, some of them probably don't have renewables, but if they did, heck that's going to be net positive probably in the right situation, right?

28:00
Speaker 2
Oh, that's right. You know, there's an additional benefit to putting solar on the roof or for people that are in an area that has net metering program in place. So net metering is becoming more prevalent all across the US and Canada. A program that allows you to connect your solar panels to the grid, to the electrical grid and then you are able to reduce your hydro bill as long as you can offset all of the energy that the home consumes with a solar array. And it is, it's a great business Move for anyone moving into a passive house. Because solar array only needs approximately 250 to 300 square feet of roof space, a 6 kilowatt or a 7 kilowatt solar array is normally all it takes to produce all the energy that a passive house requires from an operational point of view.

28:54
Speaker 2
And a small solar system that's connected to the net metering program is normally not much more than $20,000. So if you borrow, figure out what it's going to cost extra on your mortgage payment to borrow that 20,000. It will normally be less than what someone's electric bill would be otherwise. So it would put the home into just like you said there Charlie. And like net positive approach where now you know, people are making money for argument's sake.

29:25
Speaker 1
Well yeah, you know, green can be really good business. Of course you can reverse that meter, make some money. But it also is one of the only ways will heal right our planet. You spent months, maybe years earning that LEED certification. Don't let it go unnoticed. Building plaques creates custom lead recognition plaques that tell the story of your project sustainability achievement and put your design or operation team's work front and center. Their online plaque designer lets you build a fully customized plaque in under 10 minutes. Just enter your lead project number and you're off. Plaques are made from architectural grade anodized aluminum using sustainable materials and subsurface printing. So they're built to last as long as the building itself. Recognize the work, educate the visitors, show the world what green building looks like.

30:20
Speaker 1
Check them out@buildingplaques.com okay, we're talking about some advanced things, but hopefully our listeners realize it's not like this stuff is just happening. I mean, passive house been around a while. You can apply passive house to

commercial buildings. Here you've nailed it with this passive house ready kit. It might lead to other certifications, lead for homes, others, but let's predict the future. Paul, if you had a crystal ball, what's next? What are you reading up on? What are you kind of excited about?

30:50
Speaker 2
Well, if I had a crystal ball, I think I would want everyone to wake up and understand what their air quality is like, you know, and because some people might be listening where they don't feel right and it could be the house that is causing that. So I recommend people, you know, have to understand what's their indoor air quality like. You can, I recommend bringing in someone to test the radon and the carbon dioxide levels and the humidity levels. Anyone can go in and buy a thermometer that allows you to determine what the humidity and the carbon dioxide levels are like. But having the air quality tested for a radon and a mold is a big one. There's a, there's a test on the market called the Hertz ME2 test. It's a mail in order test.

31:40
Speaker 2
It's a dust swab test where you can mail in for $200 and find out if there's any mold in the hall. So this will be an educational process where people can either confirm that their air quality is good or determine it is. It's not healthy and there's a lot of stress that puts on the body is put on the body. If there's any mold or unhealthy air conditions, there's brain stress, immune stress, respiratory stress, detox stress and nervous system stress that are connected to all the problems of the home. So I think that, you know, first thing is, is taking some due diligence in figuring out what our air quality is like.

32:28
Speaker 1
Man, what a good reminder. We had this thing called a pandemic and I think it brought attention to healthy buildings and then everybody started working from home. I'm at my home office now and I hope the air quality is better. But if you think about it, commercial buildings have pretty good air filtration system. So there is a chance that the workforce got pushed into homes that you need to, and to our listeners, you need to do what Paul's saying here. We'll put some links to those kids. Like you got to know what you breathe it in. It's important for you and your family. That's spot on, man. So what I'm hearing is, hey, healthy buildings. Affordable, healthy buildings and homes. Affordable buildings and homes. Energy. It's just implied. I mean, come on, we've been doing this a long time.

33:11
Speaker 2
Yeah, it's, it's always surprising to me that the building code with all of this knowledge because they, you know, they has to understand, they have to understand that there are health impacts and energy impacts. No understandable. The code is that bare minimum, but it is what 95% of builders build to. We can't get disappointed or upset with the conventional home building world though, because everyone is bound to the code. Unless you code changes, we really, you know, can't be building better homes.

33:47
Speaker 1
You're right. All right, well, let's go to the rapid fire part of our podcast interview. What would you say is your specialty or gift?

33:55
Speaker 2
My specialty would be communicating building science. In a way that is relatable to people, you know, so, like, there's a lot of. There's a lot of channels out there communicating building science, but it's very complicated. When you start talking about air changes per hour and ventilation rates and heat loss equations, cooling loss equations, the U value and the rate of heat flow through different materials, it gets very complicated, you know, and you gotta. We gotta break it down into. Into simple things. And when I look at the passive house construction model, which I didn't really. Didn't really go through in detail earlier, but ultimately we're talking about a holistic home that has a certain thermal envelope, so enough insulation to reduce the energy demand down to where it's less than $250 a year using a heat pump. Airtightness.

34:53
Speaker 2
We spoke about high heat recovery ventilation and balanced ventilation is a result of being in an airtight enclosure with a mechanical air system is part of the equation. High performance windows and doors. So windows and doors that are designed to keep the heat in the wintertime and reflect the heat away from the hall in the summertime, but also windows that are on the southern side of the building or facing the equator when the sun is at a low angle. Windows that let all that heat energy into the hall. And that's not the way most conventional windows are installed. But lastly, the. Arguably the most important from a health perspective is the vapor open qualities of the building. So depending on climate zone and humidity ranges, that vapor open membrane could either be on the outside of the home or the inside of the home.

35:47
Speaker 2
But it's preferred to always be on the outside if possible. Because if a home is built vapor open on the inside, that house will always need a dehumidification system to deal with the moisture in. In the southern climates.

36:02
Speaker 1
Oh, wow.

36:03
Speaker 2
Like where you are, Charlie. Probably typical to have dehumidifiers in a lot of houses due to like increased humidity range of the year. Right?

36:12
Speaker 1
We do, we do. Additional to your central H Vac. You need that, man. It's. People don't realize, like in the winters too, right? It's. We have a wet cold here, so it might be 32 Fahrenheit, but, man, it feels like it's 15 degrees Fahrenheit. You know, because of that humidity, it's always here pretty much year round. Okay. You know, life's about asking great questions, but being a good communicator and storyteller. And like you said, man, that's your gift. Do you have any good Habits routines that keep you on point.

36:42
Speaker 2
Good habits. Your routines. Yeah. Makes me think they're way. You know, I think keeping active is. Is the, is the biggest for me. Staying healthy keeps my mind healthy and keeps the energy up for focusing on a business. I am a bit of a workaholic so I, I need the energy. Right. So health is very important. I've been getting into meditation recently. I really found a you know find it's a great way to calm the mind and great for having more ideas pop into your head. So I think you know trying to live you know and this all comes back to stress really. Right. Like part of this conversation with respect to the home it's all about stress and I think optimal performance for us, for us humans is being in a stress free state. We have environmental stress, physical stress, psychological stress.

37:38
Speaker 2
And and all of the research that I've done on healthy homes and all the communication that we do. If I think of you know the. One of the greatest things

I've learned is it's just how much of an impact your body all the negative impacts that happens to your body when you're under stress and stress creates disease so we need to get rid of it and people are going to have their own stress reduction mechanisms. But most people I don't think really appreciate the damaging effects that stress has and it's all I really focus on.

38:17
Speaker 1
And to our listeners rewind the last 120 seconds because you nailed it and you know that's a, it's such a lagging indicator. We don't realize that stress now what it's actually going to harm us with later. And and yeah I hadn't really connected right. The homes, the buildings or the air quality too can be stressing your body working it. You don't even realize it. So. Okay, that's good stuff. Anything else there you want to add and then we'll move on.

38:47
Speaker 2
Oh well, you know the part of the body's ability to manage stress is detox. Right. And from an air quality perspective you know very important to find out what, what people's air quality is like once again. But carbon dioxide is known to be in bedrooms 1500-2000 parts per million. There's a, there's a study that came out by the Harvard Healthy Buildings or Harvey Harvard Healthy Building Study that determined at carbon. Carbon dioxide at these levels prevents the brain from going into detox mode. So apparently in the brain can only detox when it's in deep sleep and high carbon dioxide levels prevent deep sleep and the glymphatic system is what's responsible there for detox. So you know, it all comes back to stress.

39:38
Speaker 2
But there's so many nuggets of information that are in there with respect to a healthy home is you know, we could really talk about this endlessly on all the impacts but we, we try to be here from an educational awareness perspective. On our, on our podcast page ecobuilt.com podcast we have a whole bunch of questions where people who are thinking of building can ask their builders. If you have a local builder and you're exploring building a house, there's a bunch of questions there people can ask to make sure they're guaranteed a healthy result and, but also access to a lot of designs costs associated with those designs so people can make sure they choose the right size of home right design of the home for their budget and you know, and really start working towards that dream of building a house if.

40:34

Speaker 1
If people have that well, great resources. So we'll put links to your podcast. I can tell yeah you'd have been a great teacher to have back there when you were teaching in high school stuff. Man, you really are articulate here. Made all that make sense. So a bucket list. I asked my podcast guests, hey Paul, what's on the bucket list?

40:53
Speaker 2
My bucket list would, would involve creating a passive house community in all climate zones. It's, it's what we're working on right now. So we do have a community in the works in our local area which will be a mix of single family homes and multif family homes. But going to the opposite extreme, Canada is in a very cold winter climate like a lot of the northern US but also extremes in the summer. So we have the cold climate taken care of. I think going to the other extreme, going to a more tropical climate would be really interesting. We've talked to a couple of groups in Jamaica that are part of rebuilding community plans.

41:39
Speaker 2
Hopefully we can get into one of those or somewhere else in the Caribbean or in Florida possibly, but really having demonstration communities all over the place so that people can get into a house and feel it. Because once you're in a passive house, I don't think we really appreciate the difference between optimal air quality and mediocre all air quality. And that's not to say people don't have good air quality in Their own homes. We, you know, we just want people to be aware of their situation.

42:12
Speaker 1
All right, look at that. Those Passive House communities by ecobell. I love it. All right, well that'll help you travel and do some adventure which is also I'm sure on the bucket list. I like to ask my guests, you know, Paul, is there a book you'd recommend? It doesn't even have to be a book about buildings.

42:30
Speaker 2
Yeah, a book we are gonna have a book coming out the like bios's medicine book in the future. But you know, I mentioned before building science very complicated. There might be a lot of people listening though that really like the technical aspect. There's, there's a book called the Passive House Handbook. You want to get your hands on that book if you really want to geek out on the,

and all of the building science that goes into a passive house and the reasons why and all the formulas that are connected to it. The Passive House Handbook is a really good one. And, but apart from that, we're really, I, you know, I think researching. We do have a blog where we have over a couple hundred articles literally about everything to do with a healthy home or a passive home or a low energy home.

43:21
Speaker 2
A great tool on our website is our search tool where you can search just based off of keyword topics and assist with being educated. So we got a. Education is key for everything in life and we really want to have all the tools available for people.

43:42
Speaker 1
All right, we're going to put links there and yes, when your book comes out, what a great read. I'm sure it's going to be last two things as we wrap up. As you look back on your career so far, is there anything you wish you'd have learned earlier or any career advice you wish someone would have told you earlier?

43:58
Speaker 2
Well, I, for me personally coming from a science background, jumping into business, I always wish I had gone to business school as well. So if you're getting into business, I think a business degree with all the accounting, with all the marketing, I had to self teach myself a lot of items and you know, really talk to a lot of people to get all the information that needed to be there to make sure the business was operating on all cylinders. Especially with a company that wants to provide the most affordable and healthy passive house. We have to reduce our cost compared to a lot of other companies.

44:40
Speaker 2
So having the right supply chains in place, having the right partnerships for logistics and engineering firms that are all based around standardized design details where individual customers of ours don't have to be spending a lot more money or cost on other individual components. We want to save customers with all those expensive design and build items within one individual package. Where we're building the home, it doesn't get any simpler than that ultimately really a half a dozen trades are all that are required for anyone to build a house. Someone's got a project manage, of course, but we're here to help you from a building advisor point of view. You need a plumber, an electrician, a concrete

floor finisher, an H VAC company and some carpenters. And, and before you know it, you are in your house so much.

45:41
Speaker 1
So many good resources here, man. I want everybody to reach out. So, so last thing, let's say someone's listening. They're getting inspired by your story that are just jumping in to the healthy home, the affordable home, the eco friendly home movement. Any words of encouragement, Paul, to someone that's jumping in right now?

45:58
Speaker 2
Yes, if anyone is looking at venturing into the home building world, the green home building world, I suggest that you have some goals to solve problems. There's a lot of problems that are existing in the home building world. Of course we talk about the health, but there's a lot of different systems. There's, you know, there's different ways to build a house. We of course choose a wood frame home. But experimenting with all the different ways to build and really digging deep to connect with what you love and what problems are going to stem from that love in terms of solving a problem in the home building world. Now that could be energy like passive house. Focus on energy. It could be solving the water problem, could be solving the wastewater problem or the sewage problem.

46:52
Speaker 2
Collecting rainwater, you know, we should have great rainwater systems. Anyone that's connected to city water, There's a lot of cost to be connected to water. So minimizing water use is a, is also a big topic. A lot of different areas of sustainability. Meditate, go deep and yeah, get out there and solve a problem.

47:15
Speaker 1
Wow everybody, I hope you've been inspired. I have. We're going to list a lot of resources in the podcast show notes Paul. I'm going to check out your podcast. Everybody connect with Paul on LinkedIn. Check out Ecobuilt. If you're thinking of another home or your first home, make sure to reach out. So Paul, thanks for spending time today. I really appreciate the opportunity to learn more about you and your business.

47:37

Speaker 2
Thanks for having me on Charlie, and great to be here.

47:41
Speaker 1
Thank you for listening to this episode of the Green Building matters podcast@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 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 guests. 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.

fireflies.ai Transcribed by https://fireflies.ai/