

### **When Jay and I need Inspiration or Information**

**Andrew Pace:** As a regular listener of Non Toxic Environemnts. I'm sure you're well aware of our website, degreeofgreen.com and even AFMSafecoat.com and the greendesigncenter.com. But every day Jay and I use a variety of websites to educate ourselves about products and services and different materials available. And today we want to share some of our favorites with you. So sit back and take a lesson.

Hey folks, this is Andy. Before the show starts, I wanted to take a little bit of time, just a moment to thank you for listening to our show. This has been an absolute honor for Jay and I to be involved in producing, recording these episodes and the outpouring of support that we have received from our listeners, our customers, our family and friends, and it needs to be acknowledged and we deeply, deeply appreciate it and we do appreciate all the topics, suggestions we get questions from our listeners and just those words of support. So thank you so much for being a listener of Non Toxic Environments for your encouragement. Jay and I will keep this show going as long as we possibly can. It's been a wonderful success. It has been one of the fastest growing podcasts and all of the alternative health, building related shows and we continue to grow on a regular basis. And in order to do your part to help us out, please reach out to iTunes, go to our show and give us a rating, hopefully five stars. If you find this a useful show for you, that one little bit of time it takes to give us a five star rating and even write us a review means the world to us because that means that others can find the show easier and also find that this will be a show that they will enjoy and learn from. So thank you all very much. We appreciate your support and now onto the show.

**Andy:** Welcome back to Non Toxic Environments. Jay has always great to be with you this week.

**Jay:** Yeah, Andy, similar. Good to be with you, always is.

**Andy:** So I got to tell you, first off, we have now entered into the hottest time of the year. We actually have heat advisories. And I don't know if our regular listeners may remember this, but back in the middle of winter, we actually experienced three days that it never got above about 20 below zero. Fast forward to July 18th and we are hitting heat indexes in the 107 to 115 degree range.

**Jay:** You're kidding me.

**Andy:** I am not kidding. And so when people think about extreme weather environments as it relates to high-performance building or building a new home, Wisconsin and usually it doesn't fall on the radar of being a place that you really have to be concerned about. You think of places that are really hot and humid all the time, or places that are really cold all the time. But you get an environment like this every day is different. Every season is so vastly different. In the middle of summer it's a hundred degrees with 90% humidity. And in winter it's 10 below zero with 10% humidity. So you have to build homes that can withstand that type of movement and stress.

**Jay:** Yeah, I was going to say that as an incredible swing and temperatures and of course all of the expansion and contraction and all the other things that happen. Snow loads on your roof. Andy are making me really happy I'm living in San Diego.

**Andy:** I was actually gearing up to say you must get bored there in San Diego with your perfect weather every single day.

**Jay:** You know, the strange thing is, and I've been in Southern California since I forever, I was born here. Yeah, it can get a little boring. I mean I do like weather changes. I wouldn't want days on end of minus 10. Nor would I want cloudy skies for four months a year, like they have up in the Pacific Northwest. But I do like variety. I really do. I like it when we get a storm and it comes in for a few days and it goes away. But you know, the thing is our temperatures never vary very much. If it gets really cold, that's going to be like in the forties. It's really hot. Maybe really, really hot, that might tip a hundred a couple of days. And no humidity. That's the thing. Even though we're by the coast, it's not the same type of humidity you have.

**Andy:** No, it's not. I've actually been there when you see the fog roll off the ocean. And it's like a dry fog. It gets really bizarre.

**Jay:** Yeah. Yeah. It's not that wet.

**Andy:** From somebody from Wisconsin who experiences fog about 10 months out of the year it's really annoying for me because I am so jealous of people who get to live in these perfect climates. So I guess the grass is always greener.

**Jay:** Everyone's got their beautiful times.. I'm sure there's days in Wisconsin and all of you folks who are listening and other parts of the country, you have beautiful days and you wouldn't give those away for anything.

**Andy:** The 11 months of lousy weather here makes for that one month and specifically maybe three or four days that we get a year that are absolutely perfect. It makes them oh, so sweet.

**Jay:** There you go. There you go. You and I were talking about our show this weekend and we both kind of agreed that as you all do folks, anyone who's on the computer all the time, which is everybody, isn't it? Maybe not everybody, but a lot of us, would be surfing the internet and all of a sudden we'll be looking in an area that we think we're interested in and we'll discover some really interesting new businesses with some really good ideas. So we thought it might be nice for us today to share with you some of those places on the internet that we've discovered that we think you might like to.

**Andy:** It's really a perfect topic because we're all doing more research online. And the question comes up all the time, now where do you go to get your information? Besides our own individual company websites and Degree of Green and so forth. This is a good opportunity for everybody to maybe learn some new ones. Start us off Jay, what's one of your favorite websites? All right, so I'm going to start with a company that is a British company and that company is called Tenfold Engineering. I was interested in their work and what they do because I'm a big fan of a tiny house. I'm a big fan of modular homes. I've done some research in using shipping containers, the big shipping containers as homes. There's a style there that becoming popular. In my search in that world, I came across the Tenfold Engineering. So what Tenfold Engineering is doing is they're in essence they have developed a way to build homes and structures, residential structures, emergency structures, hospital structures. But they fold; they fold up and fold out. And I can't describe it as well as if you go to the Tenfold Engineering

website and look at their videos cause they do a really good job on their website of showing how their technology works, it will blow your mind.

**Andy:** Wow. I'm actually, I'm on the site right now, Jay and I've already seen about five different things that I want.

**Jay:** Yeah. So what they're trying to do here is they don't actually sell a product. They're selling their technology. So what they're trying to do is they're trying to link up with companies who have manufacturing capabilities to be able to then take their ideas, which is the folding, expanding idea and then build it in places where it makes sense. Like they don't have a plant in the United States yet. I actually wrote them, I started a conversation with one of their fellows there and I said, I love this idea. It's got so much potential. The science is fantastic. Are you going to be making the United States? And he said, well, we're in negotiations and conversations with a lot of different people for a lot of different places in the world. So, but you can just see if folks, if you get a chance, it's just fun to look at their website because they've got so many styles and they have some really interesting videos and you can see how this technology works. It's really, really cool.

**Andy:** What I like about it, anybody who's ever played with things like erector sets as a kid, right? And you put together buildings and levers and arms and so forth. This is like an engineer's or a tinkerer's dream, right? This is really fun. And more importantly, I think it's a catalyst for what could be done, very interesting.

**Jay:** Completely portable. You can drive it out. You can set it up. You know what I was thinking, think about triage in an emergency medical situation. We have a hurricane that hits something

and you need, you got a bunch of people that are in trouble. You could bring one of these guys, you could fly it in, drop it on the ground, it would open itself up and you've got a triage center. As soon as everything's taken care of, you fold it back up, bring the helicopter in and take it out of there. It's very cool. So that's my first one.

**Andrew:** Okay. Well my first one is not going to be as engineering and exciting as yours, but it's something that I actually refer to quite often. It's a website called Rated Green. Okay. It's great. And just so everyone knows, all the websites that Jay and I talk about today, don't sit there and you don't have to take a pencil and make notes. I'm going to put this right on the show notes and description for this episode, so you'll be able to link directly to these and if there's any others that we think of after the fact, I'll throw those on there as well. So Rated Green is a website started many years ago by Alison Friedman. Alison started this site to essentially be a way for consumers to give opinions about green building materials and allow others to access it, those opinions and information essentially to make that information more readily available. And so they do allow manufacturers to join and so they can submit information, but it's all about the sharing of ideas, sharing of information. It's not something that is what I would call a third party certification of these materials. It's essentially just an encyclopedia of materials that are available.

**Jay:** Right. I'm on the site right now, just as you were on Tenfold. I'm looking at it and boy, it is really rich. It is really rich with information. I'm actually on the page that was the discussion group page. Discussions and groups. That's where I went first.

**Andy:** Well, and it's a good starting point. I will say this, and Alison and I have worked with each other over the years on various projects and we always used to run into each other at

Greenbuild and other conferences across the country. And when I started our Degree of Green program years ago, we actually worked with Rated Green a little bit and, and I'm trying to think of a way that we could sort of incorporate both ideas together. But what really holds true for Allison's website is that she's constantly updating manufacturers, updating information articles. She sends out regular emails and newsletters. You don't have to be a manufacturer or an architect to join. You can be a homeowner and individual and the information is right at your fingertips. Ratedgreen.com and I'll link that in the notes.

**Jay:** That's an amazing and excellent. Is she possible interview for one of our shows, Andy?

**Andy:** I am sure she would be. And she's a wealth of information. The problem with Allison is that she's so involved in all the different organizations and trade shows. She's hard to pin down sometimes. She's a very busy woman.

**Jay:** Reminded me of someone I'm talking to right now.

**Andy:** True. All right. What do you offer next?

**Jay:** Right. So I'm going to, I'm going to leave the UK and I'm gonna come back here to our wonderful United States. Okay. Several years ago, actually many years ago now and in my interest in alternative construction techniques I was introduced to David Easton. David Easton, is kind of well known for his work with earthen wall systems. And he was one of the pioneers back in the early eighties of what's called rammed earth construction. Okay. Basically folks, the idea of rammed earth is you're building using soil, and you're compressing it and they have forms and they use pressure to actually ram down the earth. What's really nice about that type

of construction is you're building these very thick walls and these very thick walls are great for embodying energy. They're very efficient that way. And of course because of the nature of the soil that used. And what's really nice about that is you can actually use soil from your job site. You can actually put that into your particular mix and then they'll tamp it down. And it forms these very thick walls when you have these very thick walls, you can do all kinds of really interesting architectural features, deep window boxes and all kinds of cool stuff. So anyway, so David's company is called Rammed Earth Works. That's his website. And of course, folks, as Andy just said, these all be accessible from the website. But like I said, he's been around for since the 80s doing this stuff. He's written books on it. I really kind of resonate with that idea. Similarly, other idea that I resonate with and not one of the websites I looked at here to talk about, I'm also a fan of straw bale construction. Which is a real old technique, many, many years kind of over a hundred years ago. In fact, I think there is still is a straw bale house in Nebraska that still stands today. It's well over a hundred years old. That's a whole discussion in terms of how a straw bale works and how you do straw bale and the benefits of straw bale. But it's the same kind of idea. You got a big thick wall. So what happens during the day with a thick wall like this is it embodies heat in the sun hits the side and that wall heat up, sun goes down. Guess what? The walls are still warm. Guess what? It's warm inside your house at night. And then as it starts to cool off, that heat goes the other way and the house becomes cool during the day until the wall gets heated up again. So you have this nice back and forth of temperature control. It's amazing. If you ever get a chance to stay in a rammed earth home or a straw bale home, avail yourself of it, I think you'll really find an amazing, so that's my one of mine.

**Andy:** I just have to comment on this. I'm on the website here right now and it is absolutely gorgeous. Yeah. This makes me instantly want to change my ideas for how I want to build my own healthy house. But what I do like is that they have the ability to combine architecture. I'm



seeing homes that are built with both rammed earth and wood, right. A rammed earth and other paneling materials. I even saw one that looks exactly like a villa in Tuscany. Just absolutely stunning materials. I think the difficulty would be in some parts of the country would be access to either of them the correct type of soil or knowledge base. But working with somebody like this, it looks like you can at least hire them for consulting and for their architectural services. And then it's just a matter of finding locations locally who can do the work. Definitely take a look at that one. All right. So, next on my list is an organization that I am really honored to be on the board of directors of, and it's an organization called the Building Biology Institute. This is an organization that's been around here in the United States for quite some time, and it's actually brought over, was brought over to the United States from Germany, and it's the study of the biology of not only the occupants of the home, but the home itself. And this is where if you've looked and seen information on electromagnetic fields, on a true healthy home construction and IAQ, troubleshooting the, uh, Building Biology Institute is the organization that I think really rewriting the book on how to do this correctly. And they're certifying professionals through extensive educational events and testing to become certified building biologists. So you can hire somebody who is certified in your area to come to your home to test it for electromagnetic fields, to find out if the cell towers that are in the area are causing any distress to the occupants. It's a very useful and worthwhile organization. Like I said, I'm really happy and honored to be on the board of directors of this organization, but if you want to learn about a building biology or Bau Biologie, which is how it's sold in Germany and other parts of the world I will link the website here. There's up, there are plenty of resources, articles, videos, fact sheets, bunch of downloads on the website. When I'm ever involved in consulting on a project anywhere in the country, but I am doing it remotely through over the telephone or through email. I'll always try to find a building biologist in that client's area that I can contact in case it requires some hands on work, someone to come to the home

and test for EMF, someone to come to test for a mold, so on and so forth. I always reach out to this organization first because their group of professionals are really the most well versed and really go through some of the most extensive testing.

**Jay:** Fantastic. Yeah. I'm on their website looking at their mission statement and, boy that's a good mission statement. "Working with the public and professionals to get an understanding of the vital and complex interrelationship between the natural and built environment and teach them the means for merging these complimentary environments into greater harmony and planetary health." Amen.

**Andy:** It's a burgeoning, if that's the right way to say it, burgeoning industry. People are getting sick from their built environment and it's not just their home, but it's everything else around them that they cannot even control- cell towers, farms, roads, everything else. And the industry is a changing. The information that's out there is plentiful and a lot of it is inaccurate or ambiguous and somebody who has gone through the proper training to filter out all the inaccurate information out there can actually give you what you need to know. These folks are the best of the best.

**Jay:** Excellent site, Andy. Excellent site. All right, I'm gonna stay in the earth and world here because in my research with rammed earth, I actually discovered another technique which I think is even more inventive following in the footsteps of David Easton's work. It's the architect Michael Frerking and Michael Frerking is in Arizona. His company is called Living Systems Sustainable Architecture. Now what Michael has done is he's taken the rammed earth concept and he's developed his own system, which he calls poured earth. And if you're on his website, folks should be able to see some of the work he's done. The difference between the rammed

earth and the poured earth, when you have a rammed earth home, you can actually see the strata of how they tamp it down, they tamp it, and then they fill it in and they tamp it and fill it. So as you look at the wall, you can kind of see that striation. With the pour earth concept you pour your slurry into there and you can start to get this really natural cementitious look into the stone. It looks so natural and so beautiful. And the system now he's developed, he's got this new framing system, which makes it a lot faster and a lot more economical to actually come out to your job site than to do a poured earth wall system. It's an evolution of the rammed earth idea and it's an evolution. I think it's really a good one. So that, that's really quickly all I wanted to say. A living systems architecture, Michael Frerking poured earth.

**Andy:** Oh, that's fantastic. Love it. Any opportunity to see new or new to us methods of building really, and I think everybody knows my opinion on this. I think that homes that are built predominantly with wood as our structure are essentially built to self-destruct in other parts of the world that don't have access to as much lumber as we have here in the US, homes are built with concrete and with other materials that mimic concrete. The Colosseum in Rome was built over 2000 years ago and it still exists today. Matter of fact, they just open it back up again for shows and so forth. It wasn't built out of wood. It was built out of concrete. I think that we need to promote ways of building homes, not using materials that are just because they're plentiful available and less expensive. Here's an interesting thing I just heard from a contractor that we work with this past week; homes that are built today, traditional stick frame homes, the lumber for the homes, the lumber alone is raising the home price between eight and \$20,000 from this time last year.

**Jay:** That's because the scarcity of the supply, is that what the reason is?

**Andy:** Well, it's a combination, kind of a combination of the issues. It's the fact scarcity because construction right now is very hot. It's also because of tariffs. It's because of... I would say just those two. It's a lack of materials and the tariffs.

**Jay:** Is most of the framing domestically sourced or are we importing framing?

**Andy:** Not anymore. A lot of these materials are now being imported. And as essentially because just the cost of producing here. And I'll be honest folks on top of the fact that you also have more environmental regulations here that I think we all agree are all very important. However, it's hamstrung a lot of the a lot of the suppliers. And because of that, they'll just source it from Canada, South America, Europe, Asia. At least we have access to materials. I think that all of these things kind of combined together and now all of a sudden homes are costing more, the cost of building right now is very expensive compared to what it was last year. And that's mainly because of the cost of labor going up. When you find that lumber prices are so high now, it now I think affords at least looking at other methods of doing things and maybe that's what it's going to take. It's gonna take the fact that it's becoming too expensive to build with such an inexpensive building material like wood and we have to look other ways and eventually it's going to help us all. A home that's built out of rammed earth or poured earth or concrete, it's gonna last 10 times longer than a house built out of wood.

**Jay:** And that's how you have to think of it too. You have to look at the long focus. I was just thinking, the other thing about imported wood is they can do treatments to them. And people ask us all the time, I've got this wood and it has been treated with a fire retardant? Has it been treated with a pesticide? And you know, if so, how do I deal with that? So, at least other problems when you're sourcing from outside the country.

**Andy:** Yep, exactly.

**Jay:** Okay, I think I'll just kind of my last hero or heroine I should say here, and somebody you know Andy very well... Andy and I've talked about the people in our business who have been kind of our gurus in the past and, and to pay homage to them Andy and I hope that someday we'll be able to do something and we'll be able to show off the talents and expose these gurus of ours for what they are, which is real inspiration on leaders in the healthy built world. So, I want people to meet Annie Bond. Annie's been around since the early eighties. I met her many, many years ago. Annie's any was actually poisoned a long, long time ago and is chemically sensitive because of the poisoning she had. And so she had a long road of recovery, but in that road of recovery, she discovered all these sources and resources and people that were on the same kind of path to wellness. And she was able to then kind of build from that her knowledge base. She has a website it's [anniebond.com](http://anniebond.com) I believe is what it is. Andy will put it in the show notes. She kinda builds herself as the godmother or green, the godmother of green. I like that. So her whole focus is on wellness, on healthy environments, how to build and remodel- the things that Andy and I talk about every one of our podcasts here. Uh, she's, she's kind of one of those leaders, those inspirational leaders from the past that have kinda been pathfinders for all the rest of us that have followed in their wake. Anyone who wants to check out Annie Bond's website, she's got a really good website with a lot of really good information. And for any of you listening who have chemical sensitivities, this is someone you can relate to because she's been there and she's done that and she has a way for you to figure out how you can live with that situation and make them make the most out of it in a healthy way. That's Annie Bond.

**Andy:** I've had the pleasure of speaking with Annie a couple of times over the years. I completely understand why you put her on the list. Just one of those experts with knowledge base beyond compare.

**Jay:** Yeah. And she's open to a conversation too. She's not that busy where she's closing down and saying, Oh, you're going to make an appointment, blah, blah, blah. She'll discuss with you and talk with you. It's nice to have people that you can count on like that. I mean, to me that's, that's why we want to acknowledge these people. We want to say, hey everybody, let's not forget where we came from.

**Andy:** Excellent. And so on that note, I'm going to give you actually on my last two. First, you know, one of the interviews that I did a while back was with a Deborah Lynn Dadd and Deborah has been somebody I've looked up to my entire, almost 30 year career of being in this industry. Debra has been involved in nontoxic living for over 40 years. So she is just an absolute wealth of knowledge herself. And she's got her own websites, a couple of websites. I know she is starting to sort of pass the torch along to somebody else because she's been in the business for 40 years and she has earned the right to sort of slow down a little bit. But she has so much knowledge, her website and knowledge for her database she's put together as just absolutely loaded with information. I will definitely link her websites on the notes, but just an absolute wealth of knowledge and her websites even when she's fully retired from the business, her website will still live on forever because it's such an encyclopedia for people to look at.

The last one I want to bring out, and this is something that I can't actually tell you verbally what the website is because it's not really a specific website. It's another podcast that I had the pleasure of being on a few months ago. And his podcast is actually broadcast over YouTube.

Michael Schranz is an IQ expert out of Arizona. He started what's called IEP radio. His interviews that he's done on his channel are just absolutely fantastic. I really love working with Michael. He's is an absolute expert and professional beyond compare when it comes to indoor air quality issues, whether it's mold remediation, finding a chemical emissions, so on and so forth. This guy is fantastic and I've had the pleasure of consulting with clients that he's also been working with and we work very well together, but he's done some wonderful interviews with some folks that either we have interviewed or we have scheduled to come up and including interviewing Annie Hopper with a Dynamic Neural Retraining System. That episode is probably about an hour long and it's definitely worth your time listening to, but you find his podcast is actually a video cast on YouTube. And I'll email or, excuse me, I will put on the notes a link directly to his channel on YouTube and definitely subscribe. He's coming up with new episodes very regularly. And I think you'll all really enjoy listening to how Michael approaches these issues.

**Jay:** I think we should all get together. The three of us should do something.

**Andy:** Yeah, for sure. I agree. And I think as everybody can kind of guess at this point, you know, Jay and I, because of the fact that we've just been in the industry for so long, we have a lot of friends in the industry and we've met, and worked with individuals in all aspects of the building industry. And we've put together, I think mentally at least, our own sort of, super friends, the ones that we can count on and call on when we really need things done in a proper way and really need the help that only these individuals can provide. And so that's what we hope to do here, we hope we are doing with Non Toxic Environments and as the show progresses and we improve our own abilities with creating these programs for you, we hope to

have a lot of these individuals on and eventually we will have a massive encyclopedia to refer to as you're working on your projects.

**Jay:** That was really a lot of fun. I thank you for sharing those sites with me on and introducing me to these folks. It's really, really great. That's what it's about folks. We love to introduce you to ideas and to people and to thought, knowledge is power and we're hoping we're sharing that with you.

**Andy:** You got that right. And like I said, we will post all of these web links, right? In the body of the description of this podcast. And we'll probably throw a few others in there just for good measure because we all like to surf around like Jay said and look at these sites. And if you have any favorites, when I say you, I mean our good listeners, if you have any favorites, I'd like to have you share them with us and we'll share them with other listeners who are on the Degree of Green mailing list. You can go to [degreeofgreen.com](http://degreeofgreen.com) and leave us a SpeakPipe message. Let us know what your favorite websites are for learning about healthy building, green building, anything that's related. It doesn't have to be a site that we have personally vetted. This is this going to be what's your favorite? So leave us a message there. You can send me an email, [andy@degreeofgreen.com](mailto:andy@degreeofgreen.com). Let me know what sites you like to go to. We want to share this information because we're all in this together, folks.

**Jay:** Well-stated my man will stated.

**Andy:** Well, that was an excellent episode. I really enjoyed it, I'm happy to be in the comfortable confines of my office where it's nice and cool, but it's time for me to leave and it's 102 degrees outside. Okay.



**Jay:** It gets to get an ice pack and just wrap it around your neck.

**Andy:** Thanks Jay. We'll talk to you next week.

**Jay:** Sounds good. Andy.