

How Recycled Building Materials Embrace History and Circularity

Summary

Recycled building materials, those reclaimed when a building is deconstructed rather than demolished, play an important role in reducing emissions and air pollution and uplifting communities. In this conversation, Kelley Lowe, Director of Salvage at Re:Purpose Savannah, joins host Eriqah Vincent to talk about the path that led a fine arts major to a career in deconstruction, the environmental and cultural case for reclaimed lumber, and how Georgians can support the movement to reclaim building materials in their own communities.

Key Takeaways

- A third of the world's waste comes from construction and demolition, and reclaimed lumber is one of the most sustainable building materials available, since it's already sequestered carbon that would otherwise be re-emitted as it rots in a landfill.
- Re:Purpose Savannah, a 501(c)(3) born out of the nonprofit Emergent Structures, provides deconstruction services as an alternative to demolition, salvaging about 96% of a building's usable materials, most of it lumber from Savannah's historic buildings.
- Old-growth lumber is especially valuable: it would take a second-growth forest roughly 200 years to sequester the same amount of carbon already stored in a piece of century-old wood.
- Demolished buildings, and the toxic materials they can release into air, water, and soil, disproportionately affect disadvantaged communities, making deconstruction as much an environmental justice issue as a climate one.
- Kelley and Re:Purpose Savannah are advocating for a Savannah ordinance that would require buildings over 50 years old to be evaluated for deconstruction before a demolition permit is granted, following the lead of six U.S. cities, including Portland, that already have similar ordinances.

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Eriqah Vincent: Hi, everyone, thank you so much for joining us once again for this interview series. We're really excited today to have Kelley Lowe from Re:Purpose Savannah. Kelley, I'm going to ask you some questions, but I think what we'd all love to hear is more about you, and about the fantastic work you all are doing at Re:Purpose Savannah. Please tell me about yourself, and what led you to such an interesting, varied career path — I saw some interesting twists and turns reading your bio, and as someone with a few of my own, I'm always interested to hear how people got to where they are.

Kelley Lowe: Sure, yeah, it was not a linear route by any means. My name's Kelley Lowe, I grew up overseas — that's kind of always where I start — my parents both worked with the State Department, so I had the great fortune to live in different countries, and be immersed in

international communities. Moving around a lot, you tend to adapt to new environments, and glean a lot of different perspectives. I mostly grew up in Europe, so I was surrounded by great art, great architecture, and I ended up going to school for fine art in the U.S. — I had American parents, and I'd always, oddly enough, wanted to experience what living in the U.S. was like, so I left Paris for Richmond, Virginia.

I thought it was awesome — it was a culture shock, for sure, just a very different mentality and way of living, but I thought there was an interesting dichotomy between what felt like a really fast-paced, quick consumer culture, and people really digging deep to have impactful change, and really meaningful conversations and projects and programs. I stayed in the U.S., and then got my master's degree in the Middle East. While I was at art school, I basically noticed that we were making a bunch of artwork, but that we were also throwing a lot into our dumpsters, so I felt very confused and conflicted about the expenditure of resources and time and material to make art that ends up in a white gallery, and then the same materials, just arranged differently, end up in a landfill.

So I got really interested in the lifespan of different materials — I had a stint in museum object restoration, focused on the scientific longevity of certain types of materials, and then I ended up working for the Savannah College of Art and Design, so I found my way back to the U.S. I made my way to Re:Purpose Savannah during the pandemic years — things were obviously changing and shifting all over the world, and I had a few friends locally working for this nonprofit. I'd always considered myself an artist, but I just didn't really have the ego to do that, and I really cared about science, the planet, and sustainability.

And here was this company that was thinking about things really thoughtfully, with a lot of care and a lot of love, and was basically offering an alternative to demolition, by deconstructing buildings and then harvesting all the usable materials, because 96 percent of a building is still usable, for the most part — it depends on the condition. It was a group of women, underrepresented people who didn't really fit the standard image of a construction worker, so we were all kind of different, from different areas with different backgrounds, but it turns out we can all use a crowbar, and we can all appreciate beautiful construction, and our heritage, and our built environment.

They needed someone with some sales experience, which is, I guess, what I ended up having, but really what I had was an ability to adapt, to problem-solve, to connect clients with product options, and I really cared about the mission, because there's way too much valuable material going into landfills as a result of construction and demolition. In Savannah especially, we focus on historic buildings — just the nature of the city we're in. These buildings were made of materials that don't exist anymore — the trees were cut down, for the most part, from old-growth forests, which are now a very small fraction of what they once were. But those trees still exist in our built environment, and not honoring them, by saving them, being good stewards, letting them have a longer life, is a really unfortunate condition of what's happening predominantly. Sorry, that was long.

Eriqah Vincent: No, that was really helpful, and dovetails into my next question, so it was the perfect segue. I agree about waste, and building materials, and so many other ways we make things to consume in this country, in this world, as consumers. I think the work you all are doing is really valuable — I really liked what you said about how many of the buildings torn down in such a historic and old city like Savannah are made of materials we no longer use, so how can we repurpose those. I think that's a really beautiful way to think about how we interact with our

built environment. So you talked about Re:Purpose Savannah, and I'd love to dig more into that — why focus on building materials? How do you source them? Who is reusing them?

Kelley Lowe: Sure. Re:Purpose Savannah is a 501(c)(3) that was born out of an older nonprofit called Emergent Structures, founded by the Chair of Design for Sustainability at SCAD, the Savannah College of Art and Design, Scott Boylston. He and a bunch of other folks in academia, in the circular built environment, started this nonprofit to analyze the viability and feasibility of circularity with building materials. Re:Purpose Savannah was born out of that, as a real, boots-on-the-ground business, putting theory and academia into practice. As it is now, we've been at it for six years — we provide the service of deconstruction, so, much like a demolition company, we get hired to deconstruct a building at the end of its lifetime, and because we're a 501(c)(3), the materials we recoup, for the most part, act as a donation to our nonprofit.

So it's still kind of grassroots — deconstruction as an industry is not super well known across the U.S., but historically, it's what we have done since the dawn of time, since humans built things, we always reused things, because why not. It was only after World War II that all these land-moving machines came back, and with urban renewal, it was easier to remove a condemned building entirely than fix it up — demolition became the new norm, it's not even an industry that's 100 years old, but here we are. People are starting to understand what we do, but it's challenging to get jobs, and the way we get these deconstruction contracts is by property owners caring about their building — a lot of the buildings we take down have been in families for a while, so there's sentiment attached to them. Alternatively, it's people with an interest in sustainable building practices, which is not everyone, and people interested in the tax deduction. So we've been able to compete with demolition, because demolition is faster and cheaper — what we do is carefully unbuild a building, it takes time, it's not two days with a backhoe and the building's gone, it's months, sometimes, unbuilding these buildings.

And the reason building materials matter so much is that a third of the world's waste is from construction and demolition, so in terms of real change we can make to emissions globally, it's a really important place to start. Most buildings in the U.S. are made of lumber, and reclaimed lumber is one of the most sustainable building materials you can use — for one, it's sequestered carbon, the trees already did the work, and the embodied carbon is a lot lower than a new tree that needs to get cut down, milled, kiln-dried, shipped, packaged, and sent to Home Depot. We're taking buildings apart in Savannah that have reached the end of their life cycle, and the materials are going back into renovations, and sometimes even full new builds, in Savannah. During the pandemic, it was interesting, because a lot of supply chains were getting disrupted all over the place, but we still had wood — it was still here. We're only capturing a small amount of it, but we're doing a lot more work, gaining a lot more traction. There are six cities in the U.S. that have deconstruction ordinances, mandating that, to pull a permit, deconstruction has to either be done outright or at least considered. Savannah doesn't have that yet — in the historic district, there's a lot more care and sensitivity about buildings coming down, but there have still been some sad stories, even though we exist and are pretty well known in Savannah, buildings we've missed because of time and money.

Eriqah Vincent: Of course. Thank you for that — I really like what you said, first, about the trees being here and continuing to be here, I'm a big lover of trees and everything they give us. I also find it fascinating, something I didn't realize but that makes sense, that a third of the world's waste is building materials — we're always developing, always cutting down trees or clearing space for new stuff, which I've got plenty of feelings about, but it's such an interesting fact, that we're always talking about waste, and a third of that being building materials, because we're

always building stuff, and putting things where, quote unquote, "nothing is." That's one of those things that's obvious but not obvious, so I think that's an interesting tidbit you mentioned there.

Kelley Lowe: Yeah, it is shocking — you kind of expect to see a dumpster outside a renovation job, but to see dumpsters outside new construction, I'm just like, what are you guys doing, all this material is new, what are you doing — design better. But there are opportunities for us to just get better at what we do, so I try to stay optimistic.

Eriqah Vincent: Absolutely, and I'm glad for it, glad to have an organization like you all doing that. It's obvious both of us are passionate about sustainability and reuse, but I'd love to hear why you're so passionate about reuse and sustainability, and what got you interested in this type of work — you mentioned it a bit in your story at the beginning, but anything more you wanted to say about that, I'd love to hear.

Kelley Lowe: I think I care about sustainability because it aligns with preservation, in my mind, really well, and I've been able to have such rich experiences in cities that have preserved cultural aspects, environmental aspects. I just think I care a lot about the world we live in, and how beautiful it is — I love beauty, and I want us to proceed with care and thoughtfulness, that's just how I operate, my parents raised me that way. I also have a young son now, a seven-month-old baby, and I'd just like the world to be super cool, and we have the ability to do it — we were building incredible buildings before we had electricity at the ready, and now we have all these technologies at our fingertips. I want more — I don't know that I actually want more, I just want different, a little bit. I'm just a caring person, Eriqah, I just care a lot.

Eriqah Vincent: No, I can tell that, and also, we're two moms with young kids — I have a three-year-old, well, will be three in a couple days — and I feel the same way about my work, about the environmental justice work I do. I just want her to be in a world that has beauty and isn't wasteful, but is also just, and for us to care a little more about the place both our kids, and this generation, are going to inhabit long after us. I feel that very hard.

Kelley Lowe: There's a lot of wrong that goes on, especially in demolition — it's not only that building materials are getting wasted, but when you crush a building full of potentially toxic materials, all of that goes into the air, or the water, or the soil. And more often than not, the buildings getting demolished are in disadvantaged communities — especially in Savannah, you can see that where this is happening, it shouldn't be happening. It shouldn't be happening anywhere.

Eriqah Vincent: I think that's where our two worlds collide, right — you're thinking about the construction of buildings in the most sustainable way, deconstruction rather than demolition, which is a beautiful way to put it, one I'd never even thought about, and it has metaphors for so many other things. But that's where our worlds collide, because then you're talking about asbestos, or other things getting into the groundwater, and that's where environmental justice comes in — how are we properly disposing of things, to make sure they aren't getting into the groundwater, and becoming toxic for underserved and disadvantaged communities to ingest. So that's why all of us in this work say it's all cyclical, it's all coming back around, it's all connected — both of our pieces of the movement are just as important, one as the other. So I'd love to ask another question — how specifically does the reuse of lumber and other building materials help reduce greenhouse gas emissions? You mentioned it a bit, but if you could explain more for our audience.

Kelley Lowe: Sure. The average U.S. home has 14,000 board feet of lumber, which is a lot — so when you think about how that lumber could be readily available, because it already exists in the environment, and is no longer serving its first intended purpose, it's a lot of wood. Even if you just put a financial dollar amount to it, at a dollar a board foot, that's \$14,000. I'd have to dig a bit deeper for the exact carbon that would be emitted, but it's not insubstantial, especially with older, old-growth lumber, which has been around for over 200 years, sometimes more. The years, or centuries, it would take a second-growth forest to recoup all the carbon that old-growth lumber already sequestered is about 200 years — that's the amount of time it would take. So, again, reclaimed lumber is one of the best green building solutions, or one of them — I shouldn't say the best, I'm sure there's something else out there — but it's readily available, and especially the old-growth lumber has a strength and resiliency new lumber doesn't, so it inherently lasts a lot longer. A two-by-four from a turn-of-the-century building is a lot different in size and weight than a new one, because the trees are getting grown a lot quicker, cut down a lot faster. If we were to let our forests grow a little slower, and use the lumber we're harvesting, or could be harvesting, at a higher rate, it would be really interesting to see what would happen as a result, in terms of emissions.

We just have too much usable material going into the landfill, and as it rots, it releases that carbon back into the environment, back into the air — it's very wasteful, especially lumber, which can be treated, and a lot of times two-by-fours will come back to us and not necessarily be used as two-by-fours, but milled into flooring. That's still a more viable green building option than cutting down the tree, and doing all the milling operations to get new flooring — it's still a better option. We have to be creative in the way we reuse materials, because a lot of building codes don't allow perforated lumber to be used structurally — perforated just means nails have already entered the wood — so we have to be creative with how these materials can be reused. They absolutely can be reused structurally, you just need a structural engineer to sign off on them, and I'd say 99 times out of 100, the wood is good to go, there's no issue, but systems are set up to encourage industries that are already successful. So we have to be creative, which is great — it allows for really exciting projects, we end up building a lot of furniture, a lot of our lumber goes back into renovations and restoration, so not full structural builds, but foundation repairs, wall repairs, siding repairs. We like to think about our materials as organ donors for other buildings, and especially the historic ones — using historic material that will inherently last a lot longer is much better for these old buildings than using new material.

Eriqah Vincent: Right, that's beautiful. So it sounds like every day is different for you all — you're working on specific projects, deconstructing specific buildings, which you said might take months sometimes. And can't we all learn to move a little slower? But if you could synthesize it, what does a typical workday look like for you, and for you all over at Re:Purpose Savannah?

Kelley Lowe: Yeah, so I'm the Director of the salvage part of our company — we're kind of split into two, deconstruction and salvage. The beginning of my day involves putting on my steel-toe boots and going to the lumberyard, which is where we receive and process the vast majority of the building materials that come off a deconstruction job site. So I'll typically either go to the lumberyard, or go visit a deconstruction job site — when I first started with the company, I was out in the field, on roofs, taking stuff apart, and it was amazing, but I'm a little older now, and I've got a son, so I've got to be careful. But I visit a decon job site to see what's happening, what's getting harvested, because if I can anticipate what materials are coming back, I can start finding homes for them immediately.

And because the materials are so varied — every building we take down isn't the same — we're constantly getting different material, and I get to play matchmaker. I'm calling contractors, designers, architects, saying, hey, we're going to be getting this batch of two-by-eight joists, any interest, we can mill them, we can do this. Then I'll go to the lumberyard, to check on how our processing of what we already have in-house is going, and check on custom orders. We have a wood shop, so we're also transforming these materials into things that people who aren't necessarily restoring or buying or building a house can access. Then I'll check in with our sales department — department, it's one person — and see what deals need to be made, what products need to move. We work with a lot of general contractors in town, but we're also really invested in working with affordable housing, so occasionally we're able to really reduce the price of our materials and get them into affordable housing projects, while also building a \$6,000 custom table for someone who can pay for that — both things help us navigate it all, which is really wonderful.

We salvage building materials, but we also salvage trees that come down — I just really love wood, and there are historic trees here too, so we'll get those delivered to our lumberyard, process them, and they're really beautiful. Again, usable, carbon-rich material that should not go rot in a landfill — a live oak that's been up for 300 years deserves better than that. So that's kind of a typical day, and then I'll run a machine, or work in the wood shop, drive the forklift around — we wear a lot of hats, managing people, but I like to get dirty too, and make stuff.

Eriqah Vincent: Good for you. You mentioned being an artist too, hello, artists — I think it's really beautiful to see when you can utilize those talents in spaces like this. That's great.

Kelley Lowe: I feel like taking a building down is the best form of performance art. And I should mention, too, that we're a really special company — I really love everyone I work with, it's a really tight-knit community, we trust each other, we rely on each other. What we do isn't easy, it's hard labor work, taking a building apart, picking this stuff up with your hands and your body, processing lumber — you have to get all the metal out of the lumber, and that can be a really grueling, painstaking job. I have to give it up for the crew, who work in over 100-degree heat, and work tirelessly, and still come to work even though it's really hard. It's really wonderful that we get to work with these historic buildings — we also learn the histories of the people who lived there, and we preserve them, so on our website, you can see we document the histories of the buildings, we get them 3D scanned, so they're not lost, they can still be accessed. We've got a lot of reverence in what we do.

Eriqah Vincent: Isn't it so important, when we see what we do as important, regardless of whether we're sitting in a meeting room or out deconstructing a building — I think that's so important when it means something to us, and it's obvious it means something to you all, and that's great. How can the Georgia climate community support the work Re:Purpose Savannah is doing, in the practice of more sustainable deconstruction, demolition, and construction practices in our state?

Kelley Lowe: Sure — just say the word "deconstruction" a lot, tell all your friends. If you have projects yourself, consider reclaimed, secondhand building materials first. In Georgia, we're really lucky, there are a lot of pretty heavy hitters in the reclaimed, secondhand building materials industry, like the Lifecycle Building Center in Atlanta, huge.

Eriqah Vincent: Love Lifecycle.

Kelley Lowe: Super awesome — so those are two great ways, but also getting involved in local policy. We're trying to pass an ordinance in Savannah that would make it illegal to demolish a building over 50 years in age — to get a demolition permit, you'd have to be evaluated, and if the building could be a viable deconstruction project, that's what it needs to be. There are six cities already doing this — Portland was the first, and they've been able to have huge impacts in their city, though Portland's historically been a really big reuse community anyway. There's no reason more cities, especially on the East Coast, couldn't do that — we'd love Savannah to be the first city in the Southeast to have a deconstruction ordinance, it just makes too much sense. There are so many benefits — environmental, health, cultural, and it creates jobs. So tell your local officials you care about it, vote for people who support it — and if you hear a friend needs to demolish something, be like, "nope, heard about deconstruction."

Eriqah Vincent: Cool. So my last question, Kelley, and thank you so much for this — such a rich and eye-opening conversation, one I absolutely identified with, being two moms talking about our work. What is giving you hope around climate solutions in our state? We know things are looking a little rough nationally on so many fronts, so we always like to end with a hopeful uptick — I'd love to hear where your hope lies right now.

Kelley Lowe: I spend a lot of my time just working, doing the grind, keeping my head down, but when I can pop up and look around, I'm seeing more businesses that have sustainability at the core of what they do — mostly small businesses, I'll be honest, but that gives me hope, that individuals are making a go for it and really believe in it. There's an investment in more community-based projects, programs, businesses — it feels like the lens is starting to narrow down a little, and people are starting to focus on what's around them, and the people they can most directly impact. We have a few nonprofits in Savannah that give me a lot of joy — Loop It Up Savannah is a nonprofit that gives kids donated art supplies, and their after-school programs are free, and they do incredible programming. And there's a Refillery in Savannah, where you can go and get soap in a bottle you already have.

These small initiatives give me hope, but then, on a larger scope, the Inflation Reduction Act gives me a lot of hope — we're applying for a grant that's part of that, the Trees Across Georgia grant. The Georgia Forestry Council gives me a lot of hope too, they're investing a lot in urban forestry management, planting more and more trees, and training. So I'm hopeful, but there's still a lot to be done — there are continued instances where you look at something and think, man, they could have done that differently, but you've just got to say, next time, we'll get it, we'll do it different. We definitely will.

Eriqah Vincent: Yeah, no, we definitely will, especially with organizations like you all's — and I like hearing the uptick in people wanting to use reclaimed materials. I'm thinking about furniture pieces and things I need to get right now, and I'm like, how can I find or buy something that is reclaimed — so I'll be doing my own research to do that.

Kelley Lowe: Yeah, come to Savannah.

Eriqah Vincent: Yeah, I should, I should. Thank you so much, Kelley, for your work, thank you for your heart in this work, and thank you to Re:Purpose Savannah for the work you all are doing — I really think it's admirable, and as somebody who's really trying to reduce my carbon footprint, and be less wasteful, I admire it deeply. So thank you so much for being here. Thank you all for watching, and make sure you hit subscribe on the YouTube channel, so you can catch all the

new episodes of this Georgia Drawdown Climate Digest video series. Thanks again, Kelley, and everybody have a good day.

Kelley Lowe: Thanks.